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THE BRITISH
GYNÆCOLOGICAL JOURNAL

VOL. XVII.

THE BRITISH GYNÆCOLOGICAL JOURNAL

BEING THE JOURNAL OF

THE BRITISH GYNÆCOLOGICAL SOCIETY

VOL. XVII.

EDITED BY

J. J. MACAN, M.D.

AND H. MACNAUGHTON-JONES, JUN., M.B.

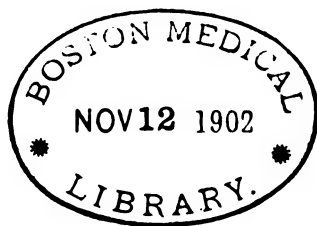


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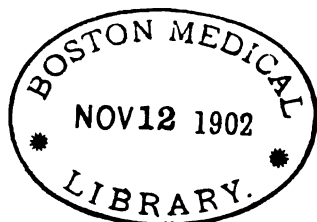
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THE BRITISH GYNÆCOLOGICAL JOURNAL.

VOL. XVII.—No. 65.

MAY, 1901.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, FEBRUARY 14, 1901.

J. A. MANSELL-MOULLIN, M.B.Oxon., IN THE CHAIR.

Dr. MACNAUGHTON-JONES said that since the last meeting their Sovereign had passed away. The Society should not permit the event to go by without recording its sympathy with the King. He therefore moved that the secretary be authorised to convey to His Majesty, through the proper quarter, on behalf of the Society, a vote of condolence upon his loss, and of congratulation upon his accession to the throne.

Dr. ELDER seconded the proposal, which was carried unanimously.

FIBROID DISEASE OF THE UTERUS.

Dr. PUREFOY, Master of the Rotunda, showed two very interesting specimens of fibroid disease of the uterus :—

CASE 1.—A single woman, aged 52, suffered from a severe attack of peritonitis lasting six weeks, and while

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I

under treatment was found to have a large, firm, abdominal tumour, having many of the characters of fibroma uteri. She was sent to the Rotunda for operation, and during this the abdominal wall was found to be firmly incorporated with the anterior surface of a large fibroid, connected with the left cornu of the uterus by a small pedicle. The omental adhesions were so numerous and extensive that considerable bleeding ensued during their separation. It was observed that the surface of the tumour presented very much the appearance of an ovarian cyst in which sup-puration had occurred. On section the substance of the tumour, except a small portion near the pedicle, was found to be of a dark red colour, and was hollowed out into large cavities freely communicating and containing unaltered blood in large quantities. Dr. Earle reported as follows on the microscopical appearances :—"The tissues of the tumour, though so unusual in colour, did not show de-generative changes but stained in the usual way, and the numerous cavities having a very smooth lining membrane appeared to be dilated blood-vessels." This condition in a fibroma was of great rarity, and very few instances of it had as yet been reported in any country.

CASE 2.—A single woman, from whom a large fibroid uterus had been removed by panhysterectomy. The speci-men was interesting because it showed numerous sub-mucous, interstitial, and subperitoneal fibroids in various stages of development. The existence of fibroid disease had been recognised six years previously, but it was then in such an early stage and the uterus so small that no treat-ment was deemed necessary, and her advanced age en-couraged the hope that any further growth would be very slow. In both cases a very satisfactory convalescence followed the removal of the tumours.

MALFORMED UTERI.

Mr. CRISTOPHER MARTIN (Birmingham) showed three specimens of malformed uteri.

(1) A so-called double uterus (didelphoris uterus). In

this case the left half was patent, and the right distended with decomposing menstrual blood (pyometra). This was first drained *per vaginam* in May, 1895; but the opening made closed and retention of the menses, with septic complications, again supervened. As the patient was becoming pyæmic, the double uterus was removed by vaginal hysterectomy in August, 1900. The two uteri were quite distinct, the peritoneum dipping down between the bodies as far as the internal os. The cervical canals were connected by fibrous and muscular tissue, but the two cavities were separate. The patient was married, had one child, and was aged 41.

(2) A one-horned uterus. This patient, aged 45, had had two children. In May, 1899, Mr. Martin removed a big, semi-gangrenous cystoma of the left ovary, with a twisted pedicle. When operating he observed that the right ovary, tube, and horn of uterus were absent. She continued to suffer severe pelvic pain, with irregular hæmorrhages, which nothing benefited. Finally, in September, 1900, Mr. Martin removed the uterus *per vaginam*, with complete relief to the patient's sufferings.

(3) Rudimentary double uterus with displaced hypertrophied ovaries, removed from a single girl, aged 18. She had never menstruated, and the vagina was a *cul-de-sac* only one inch long. The external genitals, pubic hair, and breasts were well developed. Each ovary was sausage-shaped, and between four and five inches long, stretching from the internal abdominal ring to the corresponding kidney. There were ripening follicles in each ovary. From each ovary there stretched a thin, rounded muscular cord, about one-third of an inch thick and three inches long, which dipped down into the pelvis between the bladder and rectum, and ended without uniting with its fellow in the top of the rudimentary vagina. Evidently here the two ducts of Müller had been arrested in development at a very early stage. All three patients made a complete recovery.

CASE OF CARCINOMA OF THE PROLAPSED UTERUS. By HERBERT SNOW, M.D., Senior Acting-Surgeon to the Cancer Hospital.

C. W., aged 73, wife of an agricultural labourer, was admitted into the Cancer Hospital on January 16, 1901. She had never been pregnant. There was no family history of cancer. The uterus had become procident at the climacteric period, about twenty-eight years previously. She gravely stated that the prolapse had been brought about by her husband rubbing her back for lumbar pains, from which she then suffered. The patient had since gone about as usual, wearing a diaper, but neither pessary nor other support had ever been used.

The disease had begun in the cervix. It was said to have first appeared a year previously. As, however, the duration of cancer is almost invariably much understated by the patient, it is safer to rely upon the objective phenomena, which, in this case, indicated that it had been present about twice the time stated.

A photograph which was exhibited showed a large mass covered with fungoid granulations protruding between the patient's thighs. Above the growth was a considerable margin of healthy vaginal mucous membrane. The whole was mobile.

Micturition caused great pain, but otherwise the condition was singularly painless. The urine proved copiously laden with pus and albumen, leaving no doubt that the bladder was extensively implicated.

The senility of the patient had also to be taken into consideration, and the idea of operative interference was reluctantly abandoned. The case was still in hospital, and great benefit had been derived from nursing, combined with opium-cocaine treatment.

Neglect to wear a pessary or other suitable support had, through the consequent friction, presumably resulted in the development of malignant disease. Whatever the explana-

tion, cancer of the prolapsed uterus was very rare. Dr. Snow was indebted to Dr. T. Johnston-English for the excellent photograph.

PRESIDENTIAL ADDRESS ON CERTAIN RECOGNISED
GYNÆCOLOGICAL OPERATIONS. By J. A. MANSELL-
MOULLIN, M.B.Oxon, M.R.C.P.Lond.

The British Gynæcological Society has always possessed a very special interest for me. I was present at the meeting in the rooms of the Medical Society in December, 1884, when the Society was founded, and have ever since watched with the greatest pleasure, and I may add profit, its growth and progress.

In one office or another I have done my best for the Society without intermission since its commencement, and now after holding the post of Treasurer for eight years have much pleasure in handing over its duties to my successor, Dr. William Travers, in order to accept the more important honour you have been pleased to confer upon me.

An introductory address by the President has become an established custom, and I must acknowledge that this has caused me considerable disquietude. What should be the subject of my address has been a matter of the most anxious consideration.

To write a paper to order, of any real merit, is a matter of impossibility, and *résumés* are rarely of much interest when one's audience can read up the subjects for themselves.

It occurred to me that the présent year, the first of the new century, inevitably constituted a historical landmark, and that it would not be inappropriate, therefore, on this occasion, to make some detailed reference to the present position of gynæcology, comparing it with that which existed when the Society was founded seventeen years ago, and perhaps incidentally pointing out some lines upon which the energy of the Society might with advantage be directed in the coming year.

No sooner had I commenced, however, to define the outlines of my idea than I found that its scope, as may easily be imagined, was far too wide—that, in fact, in order to carry it out I should be committed to writing an up-to-date treatise on gynæcology. To make a brief address, therefore, of any practical value, I found it necessary to limit myself to a much more modest field, and I have elected, therefore, to speak of two or three operations only, of more than ordinary interest.

Glancing at the early volumes of the Society's Journal, we find that the antiseptic system of surgery, Listerism, as it was then termed, was exciting universal discussion and interest. It had been for some time in use in general surgery, and was then being applied to the surgery of the abdomen. The carbolic spray was in general use, and all the paraphernalia of the system. Doubts as to its value had occurred to some, and Tait and Bantock were protesting that the whole question was one of cleanliness and of nothing more. We know now that, faddism as it appeared to be twenty years ago, it had a wonderful and scientific basis, and was destined to bring about the greatest revolution in surgical practice which the world has ever seen. Even the paraphernalia with which it was first accompanied served to emphasise its importance, and to arrest the attention of those to whom a mandate merely to wash and be clean would have appealed in vain.

We can now with our more perfect knowledge understand how, by keeping a wound free from bacterial infection, we can avoid the dangers of septicæmia, peritonitis, and suppuration. With a due regard to the sterilisation of our hands, instruments and dressings, and when practicable our patient, we now open the peritoneum without fear, and the wonderful success of modern abdominal surgery is the practical outcome of that experience. The bearing this has on the early surgical treatment of abdominal affections is obvious. In cases, too, where the diagnosis is more or less uncertain, we can with perfect safety ascertain the

nature of the trouble by actual inspection, and treat it accordingly with the least possible delay.

In the early years of the Society ovariectomy statistics engrossed our attention. Certain it is that the cleanliness insured by the Listerian system exercised a remarkable effect, and the mortality of the operation, which had been terrible in its early days, was reduced almost to vanishing point. All this is now ancient history, and ovariectomy at the present time has so little interest for us that specimens and cases are seldom brought before the Society.

The success gained in the operation of removal of the ovaries for cystoma was the prelude to other operations. It was followed by the removal of the ovaries and Fallopian tubes for inflammatory affections, and also for the influence their removal exercised on fibroid growths of the uterus. The removal of the ovary and Fallopian tube, the appendages of the uterus as they have been termed, somewhat disrespectfully, for chronic inflammatory disease, constituted a most important advance in gynæcological surgery, and was largely due to Lawson Tait. The value of the operation is beyond dispute. The inefficacy of all ordinary means of treatment in cases of this nature has always been recognised. Once the tubes are infected they never regain a healthy condition, but remain a constant source of danger and a nucleus for fresh inflammatory trouble. The patients are invariably chronic sufferers, passing from one practitioner to another until they undergo the operation which alone can give them permanent relief. With this advance in our means of treatment, whole chapters devoted to an earlier gynæcology have been practically deleted. All knowledge tends towards simplification. Our views on displacement have been modified. We recognise the fact that all those cases of intractable retroflexion which were the bugbear of the practitioner are due to chronic inflammation, adhesions, contraction of the broad ligaments, and matting of the ovaries and tubes to the back of the uterus. The practitioner whose sole idea of treatment was to restore

the uterus to an anteflexed position by means of some mechanical contrivance, stem pessary or otherwise, now sees the futility of the proceeding, and advises safer and at the same time more radical treatment. Ulcerations and erosions cease to engage our sole attention. Endometritis and cervicitis are regarded as a part of a more extensive inflammation, and the frequent application of caustics has been discarded as worse than useless.

The removal of the ovary for fibroid tumour of the uterus engaged the attention of the Society from the first. In his inaugural address Dr. Meadows said: "This is a subject which is quite in its infancy, and no doubt the Society will watch over its growth and development with keen interest and pride, for I cannot but think that a great future is opened up by this operation." These remarks were made on the strength of four cases, one of which was too recent to offer any positive conclusion, but in the other three success was complete and undoubted, the tumours almost entirely disappearing and their distressing symptoms subsiding within a short time after removal of the ovaries; in two menstruation ceased immediately after the operation, and in one it only recurred twice. These early prognostications, however, have not been verified. We are now in a position to express a definite opinion on this subject:—

(1) The operation is at best only applicable to tumours of a comparatively small size, and its results, both as regards checking the growth of the tumour and arresting hæmorrhage, are quite untrustworthy.

(2) The operation is frequently difficult, or even impossible, owing to the position of the ovaries behind and below the tumour.

(3) The operation is not less dangerous than the removal of the tumour itself, which is therefore the preferable operation.

This leads me to the subject of abdominal hysterectomy for fibroid tumours of the uterus, one of the most important advances in gynaecological surgery we have to record.

In the year 1885 the operation was one of appalling fatality. Keith was the only operator who could claim fairly good results, and he recorded thirty-eight cases with three deaths, a mortality of 8 per cent. Keith's rate of mortality was quite exceptional; in other hands it approached 35 to 40 per cent., and this was the position of affairs fifteen years ago.

The introduction of the extraperitoneal treatment of the stump by Kœberlé marked an important advance in this operation. Keith, Tait, and Bantock worked on this principle, and in the hands of the latter especially, the extraperitoneal treatment attained a high degree of perfection. His results, moreover, were excellent. Notwithstanding this the operation was never regarded as an ideal operation or a really satisfactory surgical procedure. There is no occasion for me to recount the various modifications which followed this operation. Total extirpation of the uterus, panhysterectomy as it was termed, had a fair trial in the hands of many operators, but has been altogether discarded. Its technique was crude and unsatisfactory. It involved infection of ligatures, necrosis, drainage, and foul discharge, and though the results were better than might have been expected, it certainly was not a commendable operation.

The ligature of both the ovarian and uterine arteries in their course as a preliminary step constitutes the feature of hysterectomy as it is now performed. Previous to the introduction of this step the control of hæmorrhage had been very unsystematic. Uterine tissue had always been regarded as especially treacherous, and hæmorrhage the principal danger to be feared in hysterectomy. That great difficulty removed, the consequent steps, leading to the perfected intraperitoneal operation, rapidly followed as a matter of course.

With this improved operation the rate of mortality has been much reduced, 5 per cent. being the generally accepted rate in the hands of those who have most experience. Un-

questionably this rate is greater than it otherwise would be if tumours were attacked at an earlier stage, but it is very difficult to obliterate the traditional teaching which still prevails that operation should be deferred until life is threatened, or the symptoms are such that existence is insupportable. The general condition of the patient is then an unsatisfactory one for operation, and poor results are only natural. The complications which are usually recognised as necessitating operation are hæmorrhage, pressure symptoms, and the size and rapid growth of the tumour. Besides these are the dangers attending pregnancy, necrosis, and the frequent secondary disease of the ovaries and Fallopian tubes.

On the value of early operation I must speak most emphatically. The necessity for this will be apparent if you call to mind a paper which appeared recently in the medical journals. The paper excited much interest, coming as it did from one who holds the appointment of a teacher of gynaecology in one of the most important London hospitals.

The writer first endeavoured to prove by statistics obtained from *post-mortem* examinations that the mortality resulting from fibroid tumours was infinitely small, while, on the other hand, the mortality due to surgical interference was very large, no less than 17 per cent. This latter figure was obtained by adding together the death-rate attending hysterectomy at three large general hospitals, and watering down the result with that of two special hospitals, the Chelsea Hospital for Women and the Samaritan. The better results of individual operators were ignored or rejected altogether from consideration on the ground that the operation was frequently performed quite unnecessarily. That any progress towards a better state of affairs had been made in recent years was denied, and the conclusion drawn was adverse to operation at all.

The policy of placid passivity irresistibly appeals to some minds, but it is not the policy which has led to the

evolution of modern surgery. Now the busy practitioner, and those who have no opportunity of keeping themselves *au courant* with special work, might, on reading a paper such as that I have referred to, be in doubt as to the proper course to advise a patient to pursue. I would point out, therefore, that these views are held by a gentleman who does not operate himself and whose claim, therefore, to be regarded as an authority on a subject concerning which he can have but little practical experience can hardly be admitted.

We may accept the *post-mortem* statistics adduced for what they are worth. It is certain that fibroid disease of the uterus directly and indirectly leads to a fatal issue in a large number of cases, and in many others renders life an intolerable misery to the woman so afflicted. Operation statistics obtained on the hotch-potch system above narrated can serve no useful purpose. The percentage which resulted might just as well have been 70 as 17, and probably would have approached the former figure if a larger number of hospitals had been included. The woman who carries a fibroid tumour carries with her an ever-present source of danger, and in the majority of instances sooner or later needs and demands relief. It will not be disputed that an operation is justifiable when it can be shown that the danger of that operation is less than that to which the patient is exposed from the disease.

Now hysterectomy is not an operation of insuperable difficulty, but it is one requiring skill and experience, and it demands a large stock of courage and ready resource. It differs from a simple ovariectomy in one very important particular—it cannot with safety be undertaken by any tyro who can find his way into the peritoneal cavity. Success depends on skill gained by experience. It is impossible to do away with the personal element, and that operator is surely the best who can show the best results in a large series of cases. Statistics of this kind are the only ones of value, and in the hands of the best operators a 5 per cent. rate of mortality is regarded as a probable estimate at

the present time. I hope to bring before the notice of the Society on some future occasion a series of cases performed last year by myself by the subperitoneal method, all of which were successful. I venture to say that the position of the operation may be summed up at the present time by the statement that we have now to consider, not so much the conditions which would justify the removal of a fibroid tumour, but the conditions which would justify us in leaving it alone.

Removal of the uterus for fibroid disease leads naturally to the removal of the uterus for cancer.

It is not so many years ago that Dr. W. Duncan read a paper on this subject at the Obstetrical Society, and the almost unanimous verdict was that the operation was unjustifiable on the ground of its large immediate mortality. The valuable work in this direction at the Cancer Hospital is well known to the Fellows of the Society. Innumerable specimens have been exhibited at our meetings, and many excellent papers appear in our Journal. A record of 107 cases by Mr. Jessett, the result of seven years' work, appeared in the number for February, 1899. The immediate mortality of the operation in this series was under 8 per cent.—truly a most gratifying result. A supplementary paper at the present time, giving the subsequent history of those cases, as far as it could be ascertained, would be of inestimable value.

There is another point, however, on which we require some further information and experience; that is, as to the after-condition of those patients in whom recurrence takes place.

I am afraid the earlier anticipations that the disease, when it returned, would spread upwards in the pelvic cellular tissue, and that the patient would be saved from all the dreadful symptoms of cancer, hæmorrhage and foul discharges, have not in experience been fulfilled.

In almost every case recurrence takes place in the cicatrix. With the complete removal of the uterus the

bowel comes at once into contact with the disease and is soon involved in the cancerous growth. Obstruction is not infrequent. In several cases after vaginal hysterectomy I have found ulceration perforating the bowel, and the discharge of fæcal matter through the vagina rendered the patient's condition one of terrible distress.

Is it well established that we do the best for our patient by complete hysterectomy in every case? I feel somewhat disposed to limit the operation to those early cases where there is good reason to believe that the line of incision is well outside the disease and there is a possibility of permanent benefit. I refer, of course, to those cases in which the disease commences in the cervical portion of the uterus. It is well known that the tendency of the disease is to extend laterally, passing through the substance of the cervix and invading the tissue of the broad ligaments. It is only at a late stage that the body of the uterus becomes involved, and sometimes it remains altogether free to the last. In fact, it affords more or less protection to the bowels.

When once the disease has involved the broad ligaments it is beyond the reach of operation, and a complete hysterectomy does no more to effect a radical cure than a partial operation—the supravaginal operation, as it is called.

When, therefore, we find an operation practicable, but have reason to suspect the removal will be incomplete and therefore early recurrence certain, I think the partial operation may after all be found to have certain advantages. It is no little matter to be able to afford a patient suffering from this terrible disease even a few weeks' respite from the hæmorrhage and discharge. The result is often an immense improvement in the general condition during the period which elapses before the symptoms recur.

Neither of these operations, the partial nor complete removal, can be considered ideal from a surgical point of view.

I am strongly of opinion the abdominal route is superior

in many ways to vaginal hysterectomy, and will ultimately supersede it, except perhaps in those comparatively easy but somewhat exceptional cases where the uterus can be drawn well outside a roomy vulva. The use of clamps allowed to remain for three days in the vagina is a barbarous and most unsurgical procedure, and ligatures are hardly less objectionable. The importance of closing the peritoneum appears to me to be obvious, although many operators think it superfluous, and make no attempt to do so.

Adhesion of the bowel to the cut edge of the vagina is accountable for a certain percentage of the immediate mortality. A case in point only recently came under my observation, in which the ileum adherent to the wound formed a constricting band around the sigmoid flexure of the colon, and with the recurrence of the disease the bowel was necessarily at once involved in the cancerous growth.

There is room undoubtedly for further work in this direction. Time will only permit me to refer very briefly to the subject of ectopic gestation and pelvic hæmatocele, conditions which in the early days of our Society were regarded as shrouded in difficulty and obscurity, but which now offer one of the most complete and interesting chapters in gynæcology. Twenty years ago Dr. Parry collected and published the records of some 500 cases, and his book contained all that was known at the time.

For the elucidation of this subject we owe much to Tait. His first operation for tubal rupture in 1883 opened a new era in the surgical treatment of intraperitoneal hæmorrhage. Later on Mr. Bland-Sutton drew attention to the condition known as "tubal mole" and "tubal abortion," in which the Fallopian tube was found to contain a hæmorrhagic ovum.

Later again, in 1894, Mr. John W. Taylor showed that the abdominal ostium of the tube in these cases commonly remained open, and that intraperitoneal hæmatocele, whenever it was found, could usually be traced to the blood drip

from the fimbriated end of the tube in which a mole of pregnancy had been formed.

These valuable researches appear to me to have practically settled in the negative the question whether a pelvic hæmatocele could be associated with any other cause.

There can be little doubt that cases of hæmatocele reported as following abortion are merely the results of imperfect observation, while the old-fashioned idea of a possible reflux of menstrual blood due to impeded outlet cannot for a moment be maintained.

Now intrapelvic hæmorrhage has been described as occurring under two conditions : (1) into the peritoneal cavity, the intraperitoneal form ; and (2) into the cellular tissue surrounding the uterus and between the layers of the broad ligament, the extraperitoneal variety.

Bernutz says : " If the rupture of the tubal sac takes place on a level with the attached border of the tube, the blood will find its way into the cellular tissue of the broad ligament and thus find difficulty in effusion, whilst the ovum will insinuate itself in the route made between the folds of the broad ligament and become developed there. For it must be remembered the ovum itself rarely ruptures, its envelopes remain intact, and its vitality is not necessarily destroyed."

The importance of extraperitoneal hæmorrhage has been questioned by many authorities, who deny that a subperitoneal hæmorrhage ever attains sufficient size to need consideration.

Tait, however, accepted the theory, and gave it probably an undue importance. He insisted that when the ovum distended the Fallopian tube the layers of the mesosalpinx were necessarily separated, and that rupture was as likely to occur in that part of the tube denuded of peritoneal covering as in any other part of its circumference. Moreover, he based his treatment on this difference, and while he strenuously advocated early operation in the intraperitoneal form, affirmed that it was unnecessary when the

hæmorrhage was in the cellular tissue. Absorption would then do all that was necessary.

It is evident from this he considered the extraperitoneal form was more or less frequently encountered. That is not my experience.

It cannot, however, be disputed that extraperitoneal or subperitoneal hæmorrhage is a possible condition, and increased probability is lent to this view by the fact that a subperitoneal form of pregnancy has been investigated by Dr. Berry Hart and Mr. Carter, who had the opportunity of examining and describing the actual conditions found in two examples.

These are all questions of surpassing interest, and there are many others in connection with this subject which claim our attention.

The treatment of ectopic gestation constitutes one of the greatest successes of modern surgery. The practical lesson experience has taught us is that there is but one remedy—whatever the phase, whatever the stage of the gestation, when once the condition is recognised operation must be resorted to.

Whether it be the early stage of aborted ovum with pelvic hæmatocele, or the more dangerous form of ruptured tube, operation is the only remedy to be relied on. Sometimes the vaginal route, sometimes the abdominal, appears to have the greater advantage. Much depends upon the special practice and predilection of the operator. The ovum has to be removed, the clots flushed out, and the bleeding vessels secured. It is only when the ovum has successfully escaped the dangers which beset its early existence, and the sound of the foetal heart proclaims the fact that development is still progressing, that the question arises whether operation, always inevitable, shall be undertaken at once or deferred for a time. To save the child and mother at the same time is a triumph for the surgeon indeed!

Conclusion.—These are a few examples only of the

valuable work which has been accomplished by our Society, and of the immense progress which the science of gynæcology has made in recent years. The march of knowledge has indeed been so rapid that a brief halt at the present moment would almost seem advisable. It is of course impossible to say that surgery may not do even more in the future than it has already done in the past. But there are many other matters in our special field of work and study which require elucidation, many questions of pathology, many questions of clinical interest, and many questions of therapeutical treatment. Is it too much to hope that the present year will add to our store of knowledge and prove itself as brilliantly fruitful as those which have preceded it? It is not, at any rate, too daring to predict that during the century which has now opened before us, advance and progress will be made with electrical speed in every department of knowledge, that in that advance gynæcology will take no minor part, and that in the promotion of its theory and its practice no small nor unimportant share will be credited by the historian of the future to the British Gynæcological Society.

THE SURGICAL TREATMENT OF PROLAPSE OF THE UTERUS.

By FRED. BOWREMAN JESSETT, F.R.C.S. Surgeon to the Cancer Hospital and the Gordon Hospital for Fistula.

After the Valedictory Address given in this room at the last meeting of the Society, in which our late President gave such a classic account of the cause and treatment of prolapsus uteri, it would seem somewhat superfluous on my part to read a paper upon the same subject, and had it not been for the opinion expressed by some of the Fellows that a discussion upon the treatment of this distressing ailment of women might certainly be fraught with interest if not of profit, and also to the fact that I had some time since

given notice of my intention of reading such a paper, I scarcely think I should have ventured to have addressed you on the subject.

Under the heading of Prolapse of the Uterus we must include prolapse of the anterior wall of the vagina, cystocele, and that of the posterior wall, which usually follows the rectum, rectocele. Hypertrophy, and elongation of the uterus must almost of necessity be included under the same head. The causes of prolapse may be divided into two

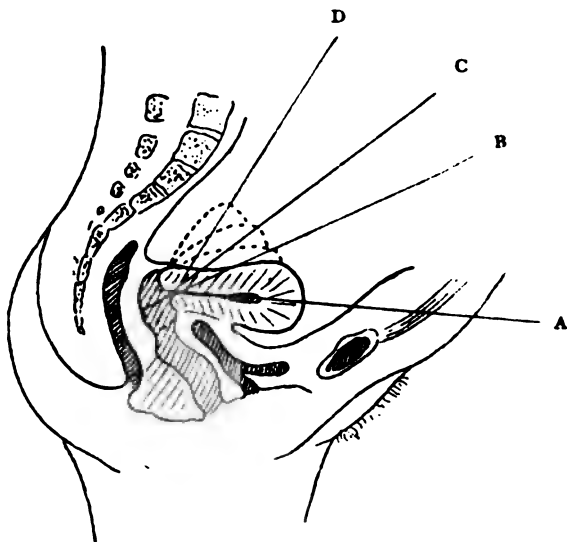


FIG. 1.—Position of A with bladder empty, B C D according to distension of bladder (van de Warker).

classes, those which are due primarily to incompetence of the pelvic floor; and, secondarily, to inadequacy of the ligaments that support the uterus.

To thoroughly grasp the best method of treating this or any other ailment, it is desirable to understand as far as possible the cause of the ailment before we can with any chance of success hope to apply a remedy. In the special subject we are discussing this appears to me to be more

than ordinarily the case, it will be therefore necessary to detain you a few minutes to very shortly examine into the anatomical relations of the uterus, how it is held in position, and why it should not always have a natural tendency to drop into the vagina and become prolapsed.

The uterus, as you are aware, in its natural position, lies almost horizontally from behind forward, the body and fundus lying on the bladder while the os is directed almost directly backwards. The utero-vesical ligaments are so attached that when the bladder is full the body of the uterus rises, the utero-sacral ligament, which is attached to the thinnest part of the uterus posteriorly, acting as a kind of hinge and keeping the cervix in a fairly uniform fixed position; then as the bladder empties the uterus, from the natural tonicity of its ligaments, returns to the horizontal position again.

Now so long as the uterus keeps this, its normal position, the intestines being placed above and behind the organ have a natural tendency to prevent the viscus becoming retroverted—in fact, if you examine the excellent illustration by Dr. Berry Hart (fig. 1), it will at once become clear that the weight of the intestine helps to keep the uterus in its place, and by no manner of means can it act as a cause of prolapse. I am assuming, of course, here that the pelvic floor is intact.

Should the utero-sacral ligament and broad ligament become weakened from any cause, *i.e.*, from post-puerperal inflammation or posterior parametritis, and allow the os and cervix to drop, then the intestine will occupy the utero-vesical pouch, and so aid in preventing the uterus recovering its normal horizontal position—this is more particularly the case in multiparæ with very relaxed abdominal parietes—and by degrees the uterus becomes retroverted, the fundus occupying the sacral curve. Should, however, the utero-sacral ligament retain its normal function, and the cervix remain fixed while the broad ligaments and round ligaments become relaxed and weakened, the

body of the uterus will become bent backwards by the pressure of the intestines, and retroflexion occurs.

There often follows hypertrophic elongation of the supravaginal portion of the cervix. The weight of the organ becomes considerably increased and the walls of the vagina are gradually forced to descend. The anterior wall of the vagina is usually the first to descend, causing cystocele, more commonly so in women who have had several

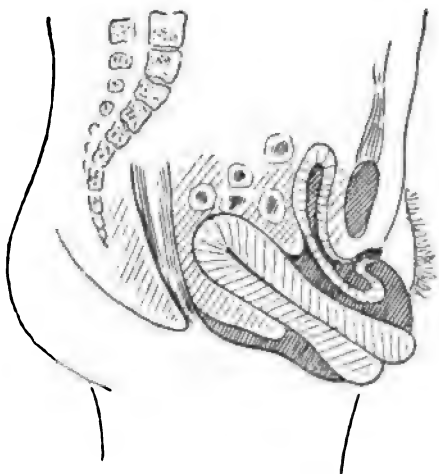


FIG. 2.—Prolapse of genital organs, complete procidentia of the thickened vagina; slight cystocele; disappearance of the posterior *cul-de-sac* of the vagina; hypertrophy of the supravaginal portion of cervix.

children; in other cases the posterior wall of the vagina descends, forming a rectocele. In both cases the vaginal walls are considerably thickened and dilated, and have lost all their natural contractile powers, and if left alone the whole genital organs become prolapsed through the vulva and great distress caused.

In nearly all the cases, however, that we meet with there is some weakness of the pelvic support, there has been some injury or mischief to the perinæum, levator ani

muscle, or pelvic cellular tissue, which is followed by cystocele, retroversion, supravaginal elongation of the cervix, descent of the uterus, and lastly, inversion of the posterior wall of the vagina (fig. 2). This of necessity must lead to stretching of the uterine ligaments and general loss of tone and relaxation of these ligaments. The chief causes of this want of support may be found in impairment of the integrity of the perinæum ; all the above-mentioned structures may be lacerated, the laceration extending to the rectum ; or perhaps the muscular and fascial tissues only

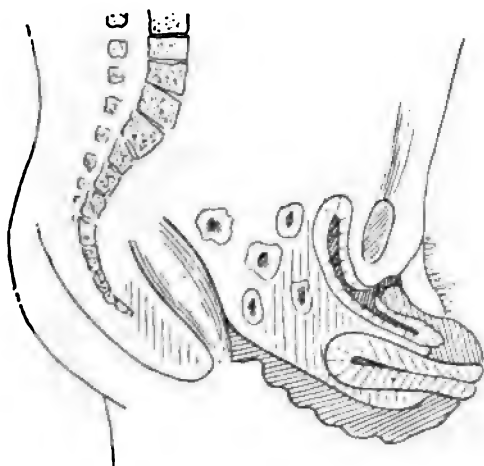


FIG. 3.—Primary prolapsus of the uterus, without hypertrophy of the cervix, following retroversion.

may be torn, there being no cicatrix to be seen behind the vaginal orifice ; but even with this extent of mischief the uterus may still continue in its normal position, if the uterine ligaments have retained their tonicity ; yet the loss of this, the perineal and vaginal support, will be found in a large majority of cases to be the primary cause of the eventual herniation of the pelvic contents.

Under such circumstances, usually, the vaginal walls

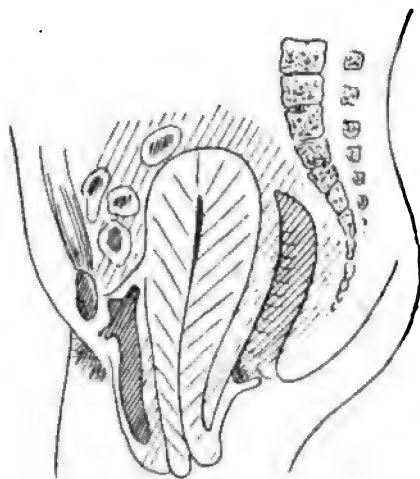


FIG. 4.—Prolapse of genital organs, procidentia of anterior wall of the vagina, with cystocele and hypertrophic elongation of the middle portion of the cervix. The posterior *cul-de-sac* of the vagina is preserved (Schroeder).

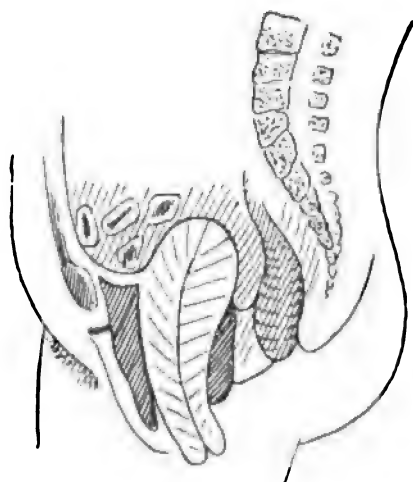


FIG. 5.—Prolapse of genital organs, complete procidentia of the vagina, with cystocele and rectocele, hypertrophic elongation of the supravaginal portion of cervix; the posterior *cul-de-sac* of vagina is inverted (Schroeder).

will have become so distended as to have lost their natural elasticity, the surfaces become inflamed and congested, the walls become separated, and protrusion of the canal facilitated. This condition of things is far more frequent when there is laceration of the perinæum, the anterior vaginal wall becoming chronically inflamed, favouring the production, first of cystocele, then of more complete prolapse.

When this condition of things is accompanied by weakening of the uterine ligaments which should retain the organ in position, then descent of the uterus and inversion of the vaginal walls steadily proceeds.

Before proceeding to discuss the treatment of the conditions we must remember that these displacements are constantly complicated with morbid changes in the displaced structures. Not only is prolapse often accompanied by retroversion and more rarely by antelexion, but much more frequently is there considerable hypertrophy of the cervix or body of the uterus due to a chronic congested metritis, all the walls are thickened and indurated, and the endometrium is swollen and vascular (fig. 4). The cervix is often elongated and hypertrophied, due to inflammatory and congested conditions of the parts (fig. 5); this may affect the supravaginal and intermediate portions so that the canal is often more than double its normal length; in other cases the infravaginal portion of the cervix is considerably enlarged and hypertrophied. In all the conditions the mucous membrane lining the canal is much thickened and very vascular, so that constant catarrhal endometritis, both cervical and corporeal, is present.

TREATMENT.

With respect to treatment it is obvious that our first object must be to return the displaced organ to its normal position, and then to adopt measures to retain it in position.

As a rule there is little or no difficulty in reducing the

hernial condition ; in some instances, however, the prolapsed mass is so swollen and congested that the utmost difficulty may be experienced ; in such cases complete rest for a few days and the use of hip baths will be necessary before reduction can be effected. In other cases peritonitic adhesions may have formed about the displaced viscera, in which case great care must be taken not to use too great force or too rapid manipulation. So soon as the parts are sufficiently softened and the bladder and rectum are emptied, one can proceed best to reduce the parts by placing the patient on her side, having the knees and thighs well tucked up, or by placing her in the genu-pectoral position, which will facilitate the air entering the vagina.

Should any great difficulties present themselves I always give an anæsthetic, when difficulties in reduction, which may have been present before, often entirely disappear.

Massage.—Massage has the repute in many cases of being of great service ; personally I have no experience of this point, but our late President speaks favourably of this form of treatment as practised by Schultze, while Thure Brandt has also induced some members of the profession to adopt the practice as suggested by him. All of those who have used this method seem to be agreed that while it may lessen the frequency of surgical treatment, yet it is tedious, not quickly learnt, and that the application requires long fingers, a supple hand, muscular activity and dexterity, and inexhaustible patience. In any case this form of treatment, in my opinion, can but be of a palliative nature.

Packing and Pessaries.—Among palliative measures may be mentioned the packing the vagina after reduction with cotton wool or marine lint, the cotton wool being soaked in glycerine or glycerine and ichthyol ; the object of this is to support the uterus in position, and by pressure to prevent absorption of inflammatory deposits. The tampons should be changed every three or four days ; after a time, when the pelvic congestion has been relieved, a well-fitting pessary may be inserted. In cases in which the pelvic floor is intact

these may be worn with advantage, and it must be the aim of the practitioner to adopt that form of pessary which may be the most efficient. In cases in which retroversion exists I have found the glycerine pessary the shape of a Hodge, with a large glycerine pad at the upper end, most efficacious, in others the ring pessary has answered admirably ; but for permanent wear the Smith-Hodge or Thomas pessary are, in my opinion, the best. But I am sure that in no case where there has been complete procidentia, accompanied by cystocele or rectocele, either together or separately, will any pessary be of use. In such cases, perhaps, should operative interference be contraindicated, the best form of pessary is the india-rubber ball pessary, which the patient can introduce and blow up herself, or the Cutter's cup-shaped pessary, with a stem terminating in a cup.

Surgical Treatment should be had resort to in all cases in which procidentia is complete, and is much to be preferred to the use of pessaries, and with this view we must bear in mind what has been said as to the causes of the protrusion. It will be necessary to take these into consideration, and adopt measures for the restoration of the parts, as far as possible, to their normal conditions. The following are the main objects to be attained :—

(1) The state of the cervix uteri should be carefully examined, and where there is much hypertrophy amputation of the cervix should be practised with a view of lessening the weight of the organ and facilitating its complete reduction. At the same time the cavity of the uterus should be curetted.

(2) The perinæum, vulva and vaginal walls should be examined, and such operation as appears to be necessary for the restoring these points of support should be carried out.

(3) The shortening of the ligaments that suspend the uterus and which have become weakened and lengthened.

(4) Hysteropexy, either through the vagina or abdomen.

(5) Hysterectomy.

When the cervix, as so often is the case, is found to be hypertrophied, it will be always advisable to amputate the hypertrophied portion or some portion of it; it may be that one or both lips, or the entire infra-vaginal portion, has to be removed. In doing this care should be taken, especially in women who have not reached the menopause, to take precautions to cut out a wedged-shaped piece of each lip, allowing thereby the edges of the mucous membrane of the vagina and cervix to be united over the cut surfaces, so keeping the uterine canal patent. The body of the uterus should be curetted and fuming nitric acid applied. A sound should be introduced into the bladder to serve as a guide to the surgeon when removing the hypertrophied cervix, and it must not be forgotten that often the folds of peritoneum are prolonged downwards both anteriorly and posteriorly. To avoid wounding these the point of the knife or scissors—I prefer the latter—should be always kept directed to the part to be removed.

The next step to be taken is to restore any injury that may exist of the pelvic floor, first as regards the perinæum, secondly as regards the pudendal aperture, and thirdly, as regards the vaginal walls.

It is obvious that should the perinæum be torn either partially or completely this must be repaired if any hope is entertained of completing a cure; to accomplish this I think all will agree that no operation is so successful as that first proposed by the late Maurice Colles of the Meath Hospital, Dublin, and subsequently carried out and perfected by Tait, viz., the flap-splitting operation.

In those cases also in which there has been no direct laceration, yet when the muscular and fascial tissues have only been torn, while there is no cicatrix of the skin or mucous membrane, it will be necessary to dissect off a large wedge-shaped piece of the mucous membrane and by deep sutures bring the torn muscular and fascial tissues intimately into apposition, leaving the sutures in a sufficiently long time to assure perfect union. When the vaginal walls,

which in all extreme cases, accompanied by cystocele or rectocele or both, are very much thickened or stretched, means must be adopted for narrowing the hernial canal ; it must not be forgotten, however, that the mere narrowing of this canal and repairing the perinæum will not in themselves prevent recurrence of the protrusion, which is also due to changes which have taken place in the uterus and its ligaments, but, on the other hand, unless the canal is considerably constricted all methods which might be adopted for fixing up the uterus would be abortive.

Colpo-perineoplasty.—Numerous ways for causing contraction of this canal have been suggested. The creating of a circular ulcer by means of the actual cautery, thus producing a cicatricial ring, have been practised, but with no very encouraging results. I have adopted in some cases the plan of using the actual cautery ; making deep longitudinal eschars radiating from the cervix to the vulva, as many as six or eight, these extending the whole length of the vaginal walls ; this method certainly has a very marked effect in reducing the calibre of the vagina, it has, moreover, I think, distinct advantages over the plan of dissecting long strips of mucous membrane from the vagina and uniting them by continuous sutures as practised by Martin. The same object may be attained in cases of retroversion, and distinct advantage gained by dissecting a longitudinal diamond-shaped strip of mucous membrane off the anterior wall of the vagina and suturing this. This dissection should begin close to the cervix uteri, widening as it goes down till in the middle the entire breadth of the wall is denuded of its mucous membrane, and narrowing again as it comes down towards the urethral orifice. A continuous catgut suture closes the wound in stages. Introduced at the urethral end, it narrows the raw surface as it is carried from side to side till it reaches the cervical end ; as it is carried down again towards the lower extremity it brings the sides of the wound together near the mucous membrane at its widest part ; and in its third stage as it is again passed

upward, it will bring together the mucous membrane at the margins. I agree with Simpson when he says this operation narrows the anterior wall, constricts the vaginal canal throughout its length, and when conjoined with perinæal repair, gives the surest hope of a radical cure in the great run of cases of prolapsus uteri. Numerous operations for colpo-perineoplasty have been suggested by Hegar, Martin,

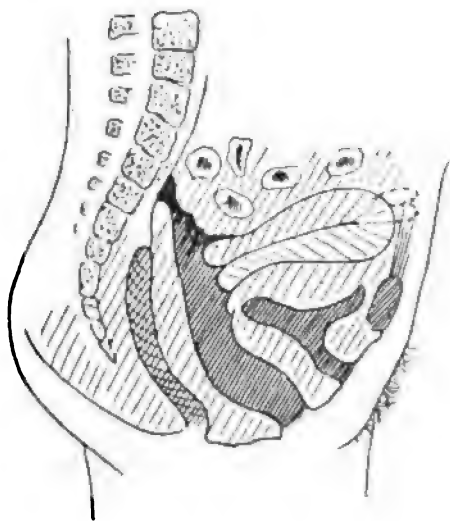


FIG. 6.—Gastro hysteropexy; fundus fixed to abdominal parietes; sacculated vagina drawn up in Douglas' pouch, and fixed to sacral peritoneum, restoring the utero-sacral ligament.

Tait, Doléris, Bischoff and other gynæcologists, but they all aim at the same end, and it is needless to weary you with them. Suffice it to say that every case must be dealt with on its merits, and the surgeon must use his own judgment as to what form of operation he will adopt in any special case.

The third indication in treatment is that of shortening the ligaments which suspend the uterus or of adopting

some form of operation for its suspension. The shortening of the round ligament was first introduced into this country by Alexander and Adams, and the operation is commonly known as Alexander's operation. Doubtless in many cases of retroversion in which there are no adhesions this is a very simple and good operation, but in cases of prolapsus, where the whole of the uterine ligaments are relaxed, this measure by itself is, in my opinion, quite inadequate, and I am strongly of opinion that nothing short of vaginal or abdominal hysteropexy will be of any service. Of colpo-hysteropexy, however, I have had but little experience, and I am strongly in favour of opening the abdomen and being guided by the state of the uterus and its ligaments. I think this operation is better if for no other reason than that you can deal with any adhesions which may exist, you have a thoroughly good view of all the parts, and if the patient is placed in Trendelenburg's position and Doyen's retractor used, the conditions of all the ligaments can be ascertained.

Gastro-hysteropexy, as usually performed, is, I consider, insufficient to retain the uterus in place. In the first place, if the surgeon trust merely to fixing the uterus to the abdominal wound he will find, notwithstanding he may have either previously or as a secondary operation repaired the points of support in the vagina and perinæum, that the uterus, merely from its own weight, will gradually drop and become elongated, the peritoneal attachment to the abdominal parietes will stretch, and matters in many cases in time become as bad as before the operation. It is absolutely necessary at the same time as the uterus is fixed to the abdomen to attend to the ligaments of the uterus. The round ligaments should be shortened by doubling them upon themselves and fixing with silk sutures. In cases of complete procidentia in which the peritoneum in Douglas's pouch is prolonged quite through the vulva, the sacro-uterine ligaments which have become much elongated should be restored by drawing up the posterior fornix of the

vagina and fixing the peritoneum covering it to the posterior wall of the uterus and to the parietal peritoneum lining the sacrum. If necessary a fold or tuck may be made in each broad ligament, and in cases of cystocele the bladder may be drawn up and stitched to the peritoneum covering the uterus.

One word as to the method of fixing the uterus to the parietes, as I consider this important. The usual plan adopted is to pass one or two sutures through the fundus of the uterus at its upper point and fixing it to the parietal peritoneum. This I consider wrong, and not based upon scientific principles, for by doing so the uterus is kept in more or less a vertical position, which is not a correct one. The uterus should be restored to its normal horizontal position as much as practicable; this can only be done by passing a couple of sutures about half an inch below the fundus on its posterior aspect, and passing the sutures, which should be of fine silk, as near to the pubes as practicable, the sutures being passed through the fascia and recti muscles so as to have a good firm hold, and not allow of any separation of the peritoneum.

If this plan of procedure is properly carried out I think we shall attain as nearly as possible to a radical cure of the disease.

Hysterectomy.—The final plan of treatment, viz., hysterectomy, is very rarely requisite, but in some old women, in whom the uterus is found to be quite outside the vulva, the os ulcerated and great pain existing, I think that hysterectomy is the best practice, as the operation itself causes but very little shock to the patient and the organ being useless as an organ, there can be no reason why the patient should not be relieved from her suffering with the least possible risk to her life.

I have purposely in the scope of this paper avoided alluding to the practice of other gynæcologists, but have based my remarks solely upon cases that have come under my own observation. I have no doubt that some of my

views are open to criticism, but I am still open to learn and to listen to any improvements in surgical procedure or other form of treatment which others have found to be of service in relieving women who may be suffering from this most distressing and troublesome ailment.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MARCH 14, 1901.

J. A. MANSELL-MOULLIN, M.R.C.P., PRESIDENT, IN THE CHAIR.

SPECIMENS.

PANHYSTERECTOMY PERFORMED DURING PREGNANCY, THE PELVIS BEING BLOCKED BY A MYOMA. By F. EDGE, M.D., F.R.C.S. (Wolverhampton).

MR. EDGE was unable to show part of the specimen owing to its condition. The patient, who had been sent to him by Dr. Willis, of Brewood, was 37 years of age, and had had six children. She had not menstruated for six months, and complained of great difficulty with the bowels, irritability of the bladder, and weight in the pelvis.

On examination.—The usual signs of pregnancy were present, and the abdominal tumour corresponded in size with the duration of amenorrhœa.

Per vaginam.—A large rounded mass, the size of a foetal head at term, occupied the position of the posterior cervical lip; the anterior lip being drawn up in front of it.

Per rectum.—The tumour was ascertained to be connected with the cervix and the lower segment of the uterus. The patient having six children and living seven miles from a railway station, labour might have set in at any moment under inconvenient circumstances, and the operation would have been more severe if postponed till term, inasmuch as the growth would have been larger and the hæmorrhage greater. He therefore felt justified in advising immediate operation.

The abdomen was opened and, after enucleation of the myoma, panhysterectomy was performed.

The patient made a good recovery, and six months later was well and strong.

Howard Kelly, in order to avoid the dangers to which the rectum and sigmoid flexure are exposed during the removal of a myomatous tumour from the posterior cervical wall, modifies his usual procedure in such cases thus—he ligatures and divides the ovarian vessels on the side which is most accessible, ties the corresponding round ligament, divides the vesico-uterine fold of peritoneum, separates the bladder, opens up the broad ligament, and secures the uterine artery. He next amputates the cervix, clamps the uterine artery, ovarian vessels, and round ligament on the other side, and then ligatures them. Finally, he removes the myoma by unrolling it from below and in front.

In this particular case the position and size of the tumour would have rendered it difficult, if not impossible, to reach the cervix. Enucleation through the posterior wall of the uterus was, therefore, probably the simpler operation; the rectum being under direct observation and injury to it being carefully avoided.

A very striking point in connection with the specimen was that the shrinkage, produced by its immersion in spirit, had rendered it almost impossible to detect in the posterior wall of the uterus the site which had been occupied by the myoma.

Mr. RYALL showed a fibromyoma (multiple) removed by abdominal hysterectomy from a widow, aged 45 (?), married twenty-two years, no children. Patient had fallen three years before and “knocked her stomach,” and had felt more or less continuous pain in the lower part of the abdomen since that time. A year later she noticed a lump about the size of an egg, which had become gradually larger, but had grown much more rapidly during the previous three or four months. Her menses had been regular, not excessive, and never lasted more than six or seven days. She

suffered from "dragging" pain, especially on the left side, with occasional paroxysms of greater severity. There had been no trouble with micturition, and the bowels were quite regular. The patient was well nourished, and neither anæmic nor cachectic. The abdomen was regularly enlarged and about the size of a full pregnancy. A large, hard, central tumour, connected with the uterus, extended about one inch above the umbilicus. On either side a smaller tumour could be felt, which—especially that on the left side—appeared to be separate from the central one. There were two other small tumours above the umbilicus, which were more intimately attached to the central mass. The cervix was drawn upwards; the fornices were free; and, bimanually, the association of the tumour with the uterus was confirmed.

Operation.—On February 8, 1901, Mr. Ryall performed abdominal hysterectomy (supravaginal). The incision extended from the pubes to within a short distance of the ensiform cartilage. The tumour, which was drawn out with a myoma screw, consisted of a large central and several smaller attached masses, two of which had distinct pedicles, and were fixed by adhesions among the intestines. The adhesions were divided, the broad ligaments ligatured, an incision made through the cervix, which was normal in size, and the whole tumour removed. The round ligaments were much hypertrophied. The left ovary, being diseased, was removed. The peritoneum was sewn over the raw edges of the broad ligaments, the stump covered in, and the anterior and posterior edges of the peritoneum brought together by a continuous suture. The patient suffered a good deal from shock, and had 5 min. of liq. strychnin. injected hypodermically before leaving the operating table.

Progress.—February 9 (day following operation).—Temperature 99·4°, pulse 112. February 10.—Had gr. 5 of hydrarg. subchlor.; bowels well opened, temperature 98·6°, pulse 100. From February 10 to February 21.—Temperature ranged from 98·4° to 100·4°; patient quite comfortable; no

distension ; no abdominal tenderness ; bowels acting quite comfortably ; slight purulent discharge from vagina, apparently coming from the stump of the cervix.

February 21.—Discharge more profuse from stump.

February 21 to 26.—Temperature 98.4° to 100° ; no untoward symptoms.

February 26.—Evening temperature 100.2° , pulse 110, no pain, distension or tenderness. Bimanually, a large mass of inflammatory exudation was felt, occupying the right side of Douglas' pouch, and extending upwards so as to be felt in the iliac fossa just above Poupart's ligament. It was not tender on manipulation, and there was no fluctuation. Under hot vaginal douching three times a day this gradually disappeared, temperature remained at 101° to 102° for three days, and then fell to 99° at night, being normal in the morning.

March 11.—Patient was allowed up.

Mr. J. FURNEAUX JORDAN showed a specimen of myoma of the uterus (invading the broad ligament), with hydrosalpinx. The specimen consisted of the uterus, containing in its interior a submucous fibroid and in its outer wall a small subperitoneal fibroid, and of a large myoma growing from the left side of the uterus. Spread out on the top of this was a large pear-shaped hydrosalpinx. The operation performed was that of combined hysterectomy. On the left side the fibroid was enucleated from the broad ligament, and the ligatures placed outside the appendages. On the right side the appendages were not removed, the ligatures being placed inside them. A gauze drain was carried into the vagina. The patient was aged 39, married twenty-two years ; two children, youngest aged 20. For the last two years had suffered from severe hæmorrhage, and for five months before the operation (on January 17 last) the loss had never ceased. Latterly there had been considerable pain. She was very stout, had a small, rapid, feeble pulse, and was absolutely blanched from the hæmorrhage. Her convalescence was impeded a little by a stitch abscess. At the present time she was quite well.

Dr. MACNAUGHTON-JONES showed the following specimens :—

(1) CARCINOMATOUS TUMOUR OF THE OVARY—
OPERATION.

Patient, aged 52, married. Nullipara. Had had severe pelvic pain for three months. Of late unable to sit. Great difficulty with the bowel, and also constant passing of urine. Had to lie on her face and hands to avoid pain. Consulted no medical man until a fortnight before he saw her. The patient's father died of cancer, at the age of 67. On examination he found a tumour occupying the pelvis, immovable, indistinguishable from the uterus, also felt suprapubically. Examined through the rectum it was hard and immovable. The os uteri was displaced upwards and forwards. It was extremely difficult to determine whether the tumour was ovarian or uterine, and he leaned rather to the view that it was the latter, and feared from the history and apparent rapidity of growth that it was malignant. He operated on February 21, making a free incision, the patient being in the extreme Trendelenberg position. On opening the peritoneum some ascitic fluid escaped, and he found the bladder considerably elevated out of the pelvis and adherent to the parietal peritoneum. The whole omentum was studded with carcinomatous masses. On passing his hand into the pelvis he found its entire cavity filled with a bossy tumour reaching behind the uterus, but evidently growing from the right ovary, and adherent. With a little trouble he separated the adhesions and delivered the tumour, which was ligatured off. The uterus and other ovary were healthy. There was some trouble in ligaturing off the torn adhesions at the bottom of the pelvis, but in the position he had mentioned and with a good light this was accomplished. As the entire omentum was carcinomatous he did not attempt removal, simply replacing it and closing the abdomen with a single layer of sutures. The course of her convalescence had been uninterrupted. This was the third case of

carcinomatous infection of the omentum from ovarian carcinoma that he had seen within a year. In the other two cases only exploratory incisions were made. The first was a woman advanced in life. She lived some six months after the exploratory incision. Both the bowel and omentum were all studded over with carcinomatous nodules. The second was a woman aged 54, and here again there was a large carcinomatous ovarian mass infecting both the omentum and bowel, and causing ascites. The exploratory operation was performed on September 20. She was still alive.

(2) **LARGE, BLEEDING MULTIPLE MYOMA—HYSTERECTOMY
AT THE MENOPAUSE.**

The patient, aged 54, multipara, youngest child 24, had suffered for a considerable time from excessive menorrhagia, and of late from severe metrorrhagia. Consulted Dr. Macnaughton-Jones early in January. Being averse to examination she had had no advice for the tumour, though it had been accidentally discovered when much smaller, by a physician, six years previously. When Dr. Macnaughton-Jones saw her her appearance was blanched and her face puffy. There was a hæmic murmur, and her general condition as unpromising as could be conceived for operation. Her urine was normal. There was little disturbance of either bladder or bowel. He put her through a course of feeding, with rest, during which time he observed a catamenial period, which lasted a week. The hæmorrhage was again most profuse and alarming. He operated by supravaginal hysterectomy on February 25, and the tumour, weighing nearly seven pounds, was removed. The operation was complicated by the opening of a large venous sinus in the broad ligament, which communicated with a distended venous sac on the surface of the tumour. This, however, was controlled by digital pressure and clamp. The course of convalescence had been uninterrupted. Before operation the patient was blanched by the previous hæmorrhages. It is noteworthy that the tumour developed and grew during

the menopause. Examination of the tumour revealed a greatly dilated canal and an enormous number of developing myomatous nodules of varying sizes.

(3) CASE OF PRIMARY MILIARY TUBERCULOSIS OF THE
BREAST.

The patient, aged 31, seen in consultation with Dr. Ensor, of Ladbroke Grove, married five years ago, and had had three pregnancies. Last labour fourteen months previously. Nursed each child almost entirely with the right breast. Had very little secretion at any time from the left. She did not complain of pain until December, 1900. She then ascribed it to a cold, and at the same time she noticed a swelling in the breast.

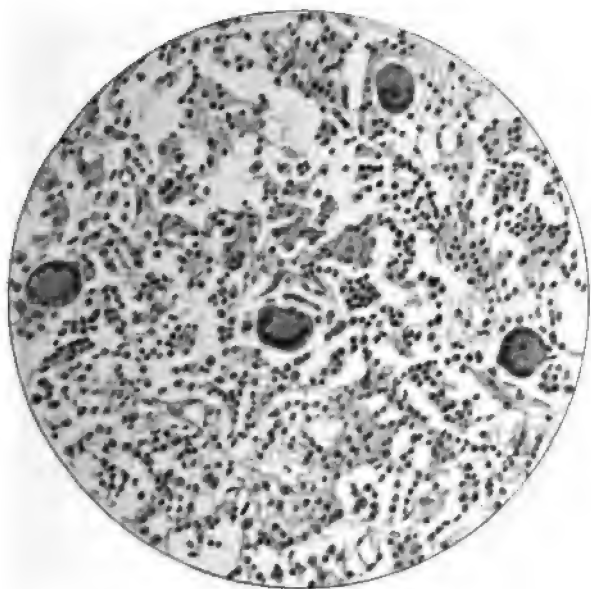
Family history.—Mother died of ascites, aged 50. Father alive and in good health, aged 65. Five brothers living and healthy. One brother died, aged 34, and a sister, aged 31, of phthisis. The patient had always had a depressed nipple. On examination he found a uniform hardness involving the greater part of the gland. The nipple was much retracted. The tumour was somewhat painful on pressure. No enlargement of the axillary glands could be detected.

The breast was amputated on January 28, and recovery followed with primary union. Careful exploration did not detect any involvement of the gland.

The following is the pathological report furnished by Mr. Targett :—

“The specimen consists of a large and fatty breast with a much retracted nipple. On vertical section through the nipple the mammary substance is much harder than normal, and the cut surface is marked by numerous small yellow foci. At one spot, about two inches from the nipple, there is a small abscess with flocculent lining membrane. Sections were taken from the indurated breast in the vicinity of this abscess.

“The main ducts in the nipple are dilated and filled with inspissated secretion.



SECTION OF MAMMARY TUMOUR,

× 200.

Miliary Tuberculosis (*see description, p. 38*).



"Microscopical sections show foci of inflammatory tissue in and around the lobules of glandular substance.

"This tissue is crowded with giant-cells, as well as with the giant-cell systems of miliary tubercles. Some foci are breaking down into small abscesses, and the small ducts are distended with secretions."

Velpeau, in speaking of tuberculous tumours of the breast, says that they have never been exactly described, either because they are rare or because they are generally combined with other morbid changes. Again he says, "If we speak of tuberculous masses strictly so called, they must be of extreme rarity, and can be met with only in women who have tubercle in other organs." Again, "I have never met in the breast with genuine idiopathic tuberculous tumours comparable to glandular tumours." Velpeau described three varieties of mammary tubercle—disseminated tubercle, multiple lymphatic tumours, and purulent lymphatic tumours, and evidently regarded the tumour of the nature of that shown as extremely rare, looking on tuberculous disease of the mammary gland as invariably associated with similar degenerations elsewhere in the body and in the lymphatic glands of the axilla. In the only case Velpeau instances in which he removed a breast when there were no such evidences of tuberculous disease elsewhere nor in the glands, it broke out in different situations a few months after the breast was removed.

Mr. Marmaduke Sheild, whose classical work on "Diseases of the Breast" was well known, writing to Dr. Macnaughton-Jones on the subject, said: "Tuberculous tumours of the *mammæ* are very rare. Usually they are present as breaking-down masses, with sinus and abscess formation, and the axillary glands are almost invariably infected." The instances Mr. Marmaduke Sheild had seen of primary tubercle of the breast had evidently had other evidences of lymphatic disease present.

Professor Watson Cheyne wrote: "Tuberculosis of the *manimæ* is certainly rare, though perhaps some of the sup-

posed simple masses of mastitis are tuberculous. So far as I can remember, the majority of the cases I have seen, I think, were primary in the breast, but these were few."

Mr. Shattock wrote that he had never seen a case of miliary tubercle of the breast.

Mr. Targett, on the other hand, considered that tuberculosis of the mammary gland was much more common than was supposed, and he was of opinion that clinically it escaped notice. This was his view from the examination of several hundred mammary tumours.

(4) LARGE ANGIOMA OF THE LIVER SIMULATING MOVABLE KIDNEY—OPERATION.

The patient, aged 27, was married, and had had three children, the youngest being 17 months old. She was seen in consultation with Dr. J. J. Redfern, of Croydon. She complained of ovarian pain, and she had a large and partially prolapsed uterus, for which she was wearing a support, and also regarding an abdominal tumour occupying the right hypochondrium and part of the lumbar region. She first noticed the abdominal swelling more than a year previously. She suffered occasionally from great pain, which radiated across the abdomen and down to the inguinal region. At times there had been vomiting. Walking or sitting for any length of time caused pain, which she also suffered in the recumbent posture. Of late she had lost weight rapidly.

On examination Dr. Macnaughton-Jones found a large retroverted uterus with adnexal swellings at both sides. The abdominal tumour was very movable, apparently associated with the liver, but also closely simulating a movable kidney, and difficult to diagnose from it. As the abdominal tumour was a most urgent feature in her case, he advised exploration with a view to removal if possible. On its exposure it proved to be a tumour of the liver of considerable size, irregularly shaped, somewhat lobulated, and very dark. It was nodular in parts, and his impression was that



ANGIOMA OF LIVER.

its nature was malignant. Its base was gradually ligatured off by passing Deschamp's needles, armed with strong silk ligatures, through it, thus isolating it, and ligaturing the tumour in sections as it was divided, finally clamping the pedicle until it was completely secured by sutures. It was thus removed with comparatively little loss of blood. The pedicle was then packed above and below with iodoform gauze. There was considerable collapse during the operation, and saline sub-mammary injections were used, and also stimulating enemata, with sulphuric ether and strychnine injections. With these she rallied. Two hours after the operation he removed the superficial dressings and found no cause for disturbing the wound. She never, however, recovered from the shock, and notwithstanding every means that could be used, including the free employment of artificial serum, she sank eighteen hours after the operation.

The report of Mr. J. H. Targett was as follows:—

"The specimen consists of a lobulated tumour, somewhat cubical in shape, and measures $3\frac{1}{4}$ inches, \times 3 inches, \times $2\frac{1}{4}$ inches. It is situated in the free margin of the liver, immediately to the right of the gall-bladder, and projects more on the deep than on the convex surface of the liver. Superiorly the specimen shows some deep fissures from lateral pressure, and the yellow hepatic substance is mottled with extensive areas of dark brown growth. Inferiorly the tumour has a coarse nodular outline, and the surface is similarly mottled with yellow and dark brown patches. On section the tumour has a spongy structure; its outline is distinct in consequence of its colour, and areas of unabsorbed hepatic tissue are visible at the periphery of the neoplasm. Histologically the growth is an angioma of the liver, and there is no evidence of malignant disease in it. Its structure consists of irregular spaces lined with endothelium, and separated by strands of soft nucleated fibrous tissue, in which no traces of unstriped muscle can be found. Some of the larger spaces

contain thrombi in process of organisation. The older parts of the fibrous stroma are becoming hyaline and denucleated, while in the advancing margin the capillary vessels are very numerous, and the stroma is scanty. While small angiomas are not uncommon, a tumour of this size is very rare."

Eiselberg and Rosenthal, the former in 1893 (recorded by J. H. Waring, "Disease of the Liver, Gall-bladder, &c.," 1897), removed a tumour weighing 470 grammes. In this case there was such severe hæmorrhage that the incision was carried through the healthy tissue beyond the margins of the growth, and the thermo-cautery was used to effect its separation. In the case operated upon by Rosenthal, 1893, also recorded by Waring, the tumour was pedunculated, and capable of being isolated by an elastic ligature around the pedicle at its attachment to the liver. In consequence there was very little hæmorrhage.

Dr. MACNAUGHTON-JONES, in reply to a question by Dr. Heywood-Smith regarding the mammary tumour, said, that though on microscopical examination of the mammary gland which he had removed, true giant cells and other evidence of miliary tuberculosis had been found, there was no evidence of tubercular disease in the lungs or elsewhere. The association of primary tubercle of the breast with similar disease of other organs did not appear to be adequately dealt with by authors on the subject, and he had consequently written to the authorities whom he had quoted to ascertain their views.

An important point which the carcinoma case illustrated was, that a tumour of the abdomen, the nature of which was uncertain, might be malignant, and it was well to bear this in mind when advising a woman that she might forego operation with safety.

Referring to the myoma specimen, he said that no more unfavourable case for operation could have been selected, and the case showed that whatever the health of a woman who suffered from such a tumour be, she should be operated upon rather than permitted to die.

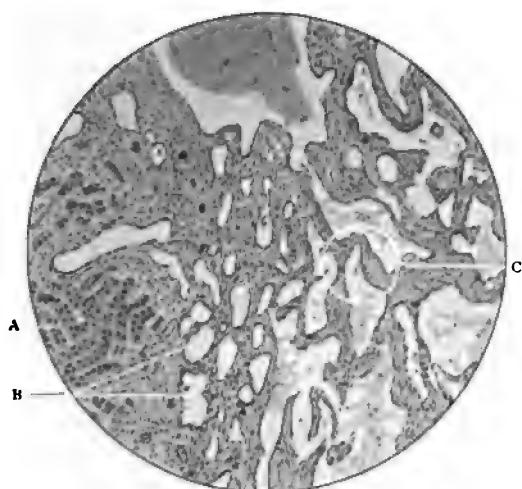


FIG. I. $\times 70$.

A. Normal Liver Cells. B. Vascular Spaces. C. A portion shown in Fig. II.



FIG. II. $\times 300$.

Showing the vascular spaces, with the endothelium and blood discs (portion of C in Fig. I.)

The PRESIDENT said that the fibroid tumour exhibited by Mr. Furneaux Jordan looked as if it might possibly have been enucleated and the uterus permitted to remain ; but it was impossible to form a reliable opinion upon such a point from an examination of a prepared specimen, the operator must necessarily be guided by the conditions which he found.

Mr. ROGER WILLIAMS said that Mr. Furneaux Jordan's specimen, both in appearance and in the sensation which it imparted to touch, closely resembled a tumour which he had seen removed from the broad ligament, and which on microscopical examination proved to be a fibro-lipoma. He asked if a microscopical examination had been made ; if not he would suggest that it be done, as it was possible that this specimen might prove to be of a similar nature.

Dr. HERBERT SNOW asked Dr. Macnaughton-Jones, relative to the angioma of the liver, whether the tumour was attached to the liver by a pedicle or not. The site of attachment seemed extremely broad.' The tumour looked almost as if it had been enucleated. As to the breast case, it would be interesting to know the future history. He had seen a good many cases of mammary suppuration, apart from lactation or pregnancy, and he thought that if tubercle bacilli had been sought for in these they would probably have been found.

Dr. MACNAUGHTON-JONES said that the angioma occupied the periphery of the liver itself. There was no pedicle.

Mr. FURNEAUX JORDAN, in reply to Dr. Williams, said he had no doubt as to the tumour being a fibroid, though a microscopical examination had not been made. The tumour appeared in the specimen to be separate from the uterus, but this was not so at the time of the operation. In addition there were two other fibroids present. Lastly, the consistence of the tumour appeared to him to be that of a fibroma.

THE PATHOLOGY AND SURGICAL TREATMENT OF UTERINE TUMOURS IN THE NINETEENTH CENTURY. By W. ROGER WILLIAMS, F.R.C.S.

I think it may be said that all of the benign and many of the malignant tumours of the uterus have now been brought within the reach of the surgeon's knife, and their pathology has been well—if not exhaustively—studied.

It was very different a century ago, when but little was known of the pathology of these tumours, and their surgical treatment was limited to the occasional removal of specimens that projected into the vagina.

I.—PATHOLOGY.

Few practical pursuits have been so much influenced by prevailing scientific conceptions as surgery, and especially those branches of it—such as gynæcology—which pride themselves on being essentially objective. As I propose to show, the pathology and treatment of uterine tumours during the 19th century have been swayed to a remarkable extent by prevailing scientific conceptions.

At the beginning of the century medical science was under the spell of the humoral pathology, and British pathologists were dominated by that form of humoralism advocated by John Hunter. At this time the microscope had not come into use, and the cellular structure of the body was therefore unknown.

The proneness of the uterus to non-malignant as well as to malignant tumours had long been recognised, but it was then impossible to make any net distinction between them. In pre-Hunterian days it was generally believed that every chronic tumour ("scirrhus") either was malignant or tended to become so. Thus Heister—a surgeon of that age—says: "The name of scirrhus is given to a painless tumour that occurs in all parts of the body, but especially in glandular organs, and is due to stagnation and drying of the blood in the hardened part. When a scirrhus is not re-

absorbed, cannot be arrested, or is not removed in time, it either spontaneously or from mal-treatment becomes malignant, that is, painful and inflamed, and then we begin to call it cancer or carcinoma." This mediæval conception of the inter-relations of malignant and non-malignant uterine tumours was generally held until the middle of the century, notwithstanding its repudiation by such a splendid pathologist as Cruveilhier, and by such an excellent student of uterine tumours as Stafford Lee; and I believe it is still credited by some modern clinicians, although I have conclusively proved its fallacy.

Hunter regarded simple tumours—which in the uterus were then described as "polypi," "scirrhus enlargements," "fleshy tubercles," &c.—as an outcome of the inflammatory process owing to the effusion of a plastic fluid—"coagulable lymph"—derived from the blood, which he credited with formative properties similar to those by which the various structures of the body are developed. Cancer he placed in an altogether different category—viz., with the specific morbid poisons, such as syphilis, small-pox, and tubercle, with which he compared it. I suppose it was owing to the lead thus given that the now quite-forgotten Society for Investigating the Nature and Cure of Cancer, which came into existence in London at the beginning of the century, and included among its members Baillie, Willan, Home, Abernethy, Denman, &c., propounded this question among others, "Is there any proof that the disease is contagious?" To which, as to their other queries, only nebulous answers were returned.

It is in Bichat's works that the first rudiments of modern conceptions may be discovered emerging from the ancient chaos. In his "*Anatomie Générale*," which appeared in 1801, we see that Bichat, without the aid of the microscope, was able to decompose the organism into its elementary tissues and organic systems, whereby the foundations of modern physiology, anatomy, and pathology were securely laid. "Every tissue," said Bichat, "has its own diseases."

He thus anticipated and prepared the way for the Cell Theory. The untimely death of Bichat in 1803, before the completion of the pathological part of his work, caused some delay in the extension of his doctrine to the field of uterine neoplastic pathology; but Bayle and Cruveilhier ultimately took the matter up, and continued the good work with such remarkable ability and success, that even to-day we may study their publications with much profit.

The names given to tumours by their earliest investigators are of interest as indications of the views then held as to their nature. Bayle and Cruveilhier were struck by the resemblance of uterine myomata to the fibrous tissue of Bichat, hence such names as "corps fibreux," "fibroid," and "fibrous tumour," were by them applied to these new formations—which they clearly discriminated from cancer.

Just as these pathological ideas were beginning to take root in the minds of the practical gynæcologists of the age, a remarkable reaction in favour of mediæval conceptions suddenly set in, and, for a time, swept them away. The apostle of this new movement was the impetuous Broussais, whose "*Traité des Phlegmasies Chroniques*" appeared in 1808, and his still better known "*Examen des Doctrines Médicales*" in 1821. His view was that all tumours, including cancer, were but forms of chronic inflammation, consequent on "organic irritation." This was a resuscitation of the pre-Hunterian conception, in which the hypothesis of "irritation" replaced the hypothesis of "depraved lymph." The extreme simplicity, comprehensiveness, and positiveness of this generalisation—suddenly sprung upon a scientific world, hesitating between the old humoral doctrines and the nascent anatomico-pathological tentatives—captivated everyone, and the Broussaisian system in an incredibly short time became supreme. In the minds of the gynæcologists of the age these reactionary ideas led to recrudescence of the old belief as to the malignant nature of myomatous uterine tumours. Thus Ashwell, who occupied the respectable position of obstetrician to Guy's Hospital—writing in

1846—refers to these tumours as “genuine cancerous productions,” and this belief was shared by most of his contemporaries.

The supremacy of the Broussaisian doctrine was, however, of short duration. What more than anything else contributed to its downfall was the application of the microscope to the study of new growths. This instrument, which had been invented towards the end of the sixteenth century, by the Jansens—father and son—spectacle makers, of Middleburg, in Holland, had for over two centuries been merely a scientific toy, owing to the impossibility of seeing clearly when high magnifying powers were used, by reason of the disturbing influence of chromatic and spherical aberration. At length, early in the nineteenth century—thanks to the skill and ingenuity of Selligues, Chevalier, Tulley, J. J. Lister, and others—these difficulties were surmounted. In 1830 a really serviceable compound microscope was at last produced, and with its aid naturalists shortly afterwards began to explore the minute structure of organic forms. Thus the cellular structure of organised beings was ere long discovered.

For the famous cell-theory—which must be ranked among the most important steps by which the science of biology has ever been advanced—we are indebted to the vegetable morphologist, Schleiden; and shortly afterwards (1838) Schwann demonstrated the applicability of his generalisations to the animal world.

In the very same year the publication of Johannes Müller's important work on the morphology and minute structure of tumours established the cellular nature of cancer and other neoplasms. Müller believed that the constituent cells of tumours were derived from a formative fluid exuded from the blood (blastema), which was nothing but the “coagulable lymph” of Hunter under another name. He ascribed the origin of cancer and other neoplasms, and their variations *inter se*, to aberrations of the force inherent in this primordial substance. Müller was one of the first pathol-

ogists who strongly insisted on the correspondence between the development from the embryo and the pathological neoplastic process. "It is one and the same power which, being maintained continuously from the germ to the latest period of life, determines all organic formation." Pathological cells, he maintained, differed from physiological cells only in respect to the degree of evolution ultimately attained.

Uterine myomata received from Müller the designation of desmoid, or fibro-tendinous tumours.

The establishment of the cell theory gave an immense impetus to pathological histology, and a vast mass of new data soon accumulated. Stafford Lee's monograph on uterine tumours—which appeared in 1848—belongs to this period; and for a long time it remained the best exposition of the subject in the English language.

Modern conceptions as to the origin and structure of tumours may be said to date from the appearance of Virchow's "Cellular Pathology" in 1859, for it is to this work that we are indebted for the thorough establishment of the cell theory in neoplastic pathology. Virchow's influence on modern conceptions has been so great that it is necessary to trace the genetic relationship of his ideas with those of his predecessors. It may be said that he adopted the cell theory of tumours in its entirety, as laid down by Müller, with the single important exception that he completely exorcised the blastemal origin of cells. It was just this omission that chiefly constituted the novelty of his system. Instead of a hypothetical blastema, he substituted the famous formula "*Omnis cellula e cellulâ*." The doctrine of continuous cellular development that had been established by Remak for the normal tissues, thus became the basis of Virchow's neoplastic pathogeny.

An important point in which Virchow's pathogeny differs from that of his immediate predecessors is that it includes the whilom extinct Broussaisian doctrine of irritation and chronic inflammation. Nowhere in his works have I met

with any attempt to explain the compatibility of this view with the doctrine he has also adopted of the correspondence between the embryonic and the neoplastic developmental processes. In my opinion these views are incompatible, and this incompatibility constitutes a serious flaw in Virchow's neoplastic pathogeny.

In his great but unfinished work on the "Pathology of Tumours," which began to appear in 1863, Virchow gives a full account of uterine tumours, which he regarded as the outcome of local irritative and chronic inflammatory conditions. Having satisfied himself that the so-called "fibroid" tumours contained muscle-cells similar to those of the uterine wall, as Vogel had previously indicated, he insisted on the propriety of calling them myomata, and at the same time he fully recognised their innocent nature. By Virchow the connective tissue was regarded as an indifferent matrix, whence any tissue might arise by metaplasia. It was to this source that he ascribed the origin of the cellular elements of cancer; and in this he has found modern imitators in such able investigators of uterine cancer as Ruge and Veit. But, as Waldeyer soon pointed out, this doctrine ignores the specificity of the tissue elements which embryology has revealed. It is to Waldeyer that we owe the sharp line of demarcation that has now been drawn between epithelial and connective-tissue tumours, and it is owing to his teaching that we now look to pre-existing epithelial cells for the germs whence cancers arise.

One of the most important services rendered by Virchow to our knowledge of tumours—and especially uterine tumours—was the discrimination of sarcomatous from carcinomatous formations. The impossibility of making this distinction in pre-microscopic days had been a great stumbling block to his predecessors.

The term "sarcoma" had been used in ancient times—especially by Galen—to indicate tumours of fleshy aspect (*tumores carnosī*), especially such as were polypoid. Subsequently the term fell into disuse, until it was revived by

Abernethy at the beginning of the century. He applied it, in a vague way, to all tumours "having a firm and fleshy feel." Virchow's histological researches enabled him for the first time to give the term its modern significance. Virchow was one of the earliest investigators of uterine sarcomata, the rarity of which he recognised. He described mucosal and parenchymatous forms, as well as the occasional origin of the disease from myomata. Since Virchow's time we have seen the discrimination of infantile, botryoidal and decidual varieties.

In 1875, Cohnheim put forward a modification of the cellular pathogeny, which has since met with much support. He maintained that tumours arise from sequestered fragments of the germinating tissues, detached during embryonic life. Very few facts could at that time be adduced in support of his views, for no one then believed in the possibility of such an amount of developmental irregularity as they presupposed. The light of modern science, has, however, effectually dissipated this misconception, and our eyes have been opened to the hidden defects of normality. Sequestered fragments of the various tissues and organs have now been found to exist in every part of the body that has been specially examined for them. The uterus is no exception to this rule, for the track of the Wolffian and Müllerian ducts is strewn with débris of this kind.

As I have pointed out in my recently-published work on "Uterine Tumours," there are good reasons for believing that most uterine myomata arise from dislocated myomatous elements connected with abnormally evolving "rests" of Wolffian and Müllerian structures. Thus their initial multiplicity may be accounted for. The discovery of epithelial inclusions in uterine myomata by Babes and Diesterweg, in 1882, was one of the earliest indications of the correctness of this interpretation, which many other similar observations have since confirmed and amplified.

With regard to cancerous tumours, it has been shown that epithelial heterotopia of the uterine mucosa is of

common occurrence, and in many instances the origin of these tumours has been traced to aberrant elements of this kind. It seems certain that many forms of cervical sarcoma, with whose structure various heterotopic elements such as cartilage, bone, striped muscle, fat, mucous tissue, &c., are commonly blended, originate in like manner from "rests" of adjacent tissue, sequestered during embryonic life. Many uterine cysts also appear to originate from aberrant elements thus derived. The not infrequent association of all kinds of uterine tumours with gross developmental irregularities of the sexual organs, such as uterus duplex, uterus unicornis, uterus septus, uterus accessorius, bifid and trifid uterus, &c., as well as with vaginal malformations, defective development of the sexual organs, ovarian cysts and dermoids, and other developmental irregularities, to which I have elsewhere called special attention, all indicate the important part played by developmental irregularity in the genesis of uterine tumours.

If the foregoing views be correct, it follows that local irritative and chronic inflammatory conditions play but a secondary part in the causation of uterine tumours.

Pasteur's discoveries as to the microbic origin of fermentation and many communicable diseases during the latter half of the century, have tended to undermine the authority of the cellular neoplastic pathogeny; and a widespread belief has thus been fostered that neoplasms will eventually turn out to be of microbic origin. A curious consequence of this has been a tendency to revert to the ancient doctrine of irritation and chronic inflammation for the chief causative factors in neoplastic pathogeny. Indeed, some pathologists—such as Virchow and Hutchinson—have always held this view, which has been applied to all kinds of tumours—malignant as well as non-malignant. Microbes first began to be heard of in connection with the etiology of tumours at the beginning of the last quarter of the century. It was to the bacteria that the first specific cancer microbes were alleged to belong. Just as this move-

ment was on the wane, attempts were made to ascribe the origin of the disease to certain "endocytes" found within the constituent cells of the tumour, which were alleged to be parasitic protozoa. In 1890, Russell described certain "fuchsin bodies" as the characteristic organisms of cancer; these he regarded as parasitic blastomycetes of the same order as the yeast fungi. Roncali, Sanfelice, and others have lately strongly favoured this view, which, however, still lacks confirmation. Indeed, the evidence hitherto adduced as to the existence of a specific cancer microbe, is altogether inconclusive. Hence, if there really be any irregularity *ab extra* from whose action cancer must result, it altogether transcends present experience. Uterine cancers have gone through all of the above-mentioned phases, having been successfully ascribed to bacteria, parasitic protozoa, and to blastomycetes. The presence of various bacteria has been noted in uterine myomata by Nelson, Gallipe, and Landouzy, and Vedeler claims to have seen protozoa in them; but nothing has transpired to justify the assumption that microbes have anything to do with their genesis.

Thus, at the commencement of the twentieth century the origin of uterine tumours appears to be more closely associated with embryology than with bacteriology.

II.—SURGICAL TREATMENT.

The introduction of anæsthesia, which took place about the middle of the century (1846), constitutes one of the most important epochs in the history of surgery. The whole surgical art was revolutionised thereby, and received an extension beyond even the dreams of the most visionary. Its influence on the treatment of uterine tumours was immense.

MYOMATA.—(a) *The Vaginal Route.*

The removal of myomata projecting into the vagina is an ancient procedure, and in pre-anæsthetic days it was practically the only form of surgical treatment in vogue,

until Amussat—in 1840—opened up the cervix and removed tumours of this kind from within the uterine cavity.

In the early part of the century the removal of myomata projecting into the vagina was generally effected by ligation of the pedicle, the tumour being left to slough off. Subsequently Dupuytren and Robert Lee, instead of waiting for the ligatured tumour to separate by sloughing, proceeded to cut it forthwith. Lisfranc soon afterwards introduced enucleation, after free division of the structures covering the presenting part of the tumour. Slender-stalked tumours were sometimes seized with forceps and twisted off.

The timidity of many of these pre-anæsthetic operators, the imperfections of their armamentarium, and especially the poverty of their hæmostatic resources, often caused even these comparatively trivial operations to be abandoned before completion. Making a virtue of necessity, such failures were euphemistically described as attempts to imitate the natural process of expulsion by partial operation. Hence, at this period, such procedures as incision of the capsule of the tumour, partial decortication, gouging, burning or cauterising the tumour substance, and other processes of this kind, acquired considerable vogue. When, however, it was at length perceived that in nineteen out of twenty cases the natural efforts at elimination ended fatally, and that the results of the artificial irritation thereof were hardly less disastrous, these methods fell into disrepute.

After the introduction of anæsthesia, and what may be called the discovery of abdominal surgery, the attention of surgeons was so absorbed in developing the latter that vaginal operations were neglected. Hence the ancient methods for dealing with myomata *per vaginam* continued to be almost the only ones employed, until—in connection with the extirpation of cancer—the capabilities of the vaginal route were discovered.

In the early part of the last quarter of the century Péan adopted this route for the removal of myomata, and introduced many improvements. To him we owe the systematic

employment of forcipressure for preventive hæmostasis, instead of the ligature which his German predecessors had employed. He also adopted the practice of laying open the cervix, the principle of *morcellement*, and the extension of the operation for the removal of the adnexa when necessary.

It was an essential feature of Péan's operation to secure the blood-vessels in the broad ligaments before proceeding to the removal of the uterus or the tumours, and in *morcellement* each fragment to be removed had its own hæmostatic forceps. The great number of forceps thus necessitated impeded the field of operation, and rendered the necessary manipulations difficult. To obviate this Doyen (1892) and Landau (1895) introduced a mode of operating in which special primary hæmostasis is done away with—the structures involved being first liberated and brought down into the vagina to form a pedicle—hæmostasis being effected just before excision, at the end of the operation. This method is specially suitable for dealing with the myomatous uterus.

The vaginal route is, I think, the least dangerous, and the most successful of all modes of operating for these tumours in suitable cases ; and it is regrettable that its advantages are so generally ignored by British surgeons.

(b) The Abdominal Route.

Abdominal surgery can hardly be said to have had any vogue in pre-anæsthetic days, although sporadic operations had occasionally been done, especially by the pioneers of ovariectomy. Indeed, the earliest abdominal operations for the removal of myomata were done by the latter through errors of diagnosis.

Even as early as 1825 Lizars, on opening the abdomen for a supposed ovarian tumour, found that he had to deal with a large uterine myoma, and abandoned the operation ; and the following year Dieffenbach had a similar experience.

In 1827 Granville did what was thought to be the first

ovariotomy in London; but, on subsequent examination, the extirpated tumour turned out to be a pedunculated uterine myoma. The like experience befell Clay in 1843, and Atlee in 1844. Clay completely extirpated the whole myomatous uterus, also in 1844, under the belief that he was removing an ovarian tumour. This is the first total hysterectomy for myomatous disease on record. The patient unfortunately died of peritonitis—after a bad fall—on the fifteenth day after the operation.

The introduction of anæsthesia soon afterwards gave a great impetus to abdominal surgery. In 1853, Burnham having opened the abdomen and delivered through the wound a presumed ovarian cyst, found that he had to deal instead with a uterine myoma, which he could not replace. Under these circumstances, having transfixed and ligatured the cervix, he then amputated the myomatous corpus, dropping the pedicle, the ends of the ligatures being brought out at the lower angle of the abdominal wound. The patient made a good recovery. Burnham did altogether fifteen operations of this kind with two deaths. In the same year as Burnham's first case his fellow-townsmen, Kimball, having correctly diagnosed a myomatous tumour, successfully removed it by the same method. To Schroeder, who has done so much to advance uterine surgery, we owe the methodising and popularising of this operation, and especially the perfecting of the intraperitoneal treatment of the pedicle (1883). Further improvements made by Zweifel (1894), Kelly (1896), and others, have resulted in the crystallisation of the present method of operating.

Before Schroeder's improvements, however, Kœberlé had many times amputated the myomatous uterus, and it was he who specially brought to perfection the extraperitoneal method of dealing with the pedicle, which has ever since been the favourite British *modus operandi*.

Total extirpation of the myomatous uterus, which originated with Clay in 1844, obtained no vogue until many years later, when it was reintroduced and systematised by

Bardenheuer (1881). Martin, Doyen, and others have since introduced many improvements.

Of late operations such as these have become increasingly frequent, and I think there can be no doubt, as I have elsewhere stated, that the pendulum has now swung too far in this direction. The removal of myomata by abdominal section should, I think, be regarded as a means for dealing with certain exceptional cases, rather than as the routine treatment for such tumours.

CANCER.

Few surgical procedures have undergone such remarkable fluctuations as those which have been devised for the treatment of uterine cancer. At the beginning of the century pathology and surgery were relatively more advanced in France than in any other part of the world, and this pre-eminence was especially noticeable in the field of uterine pathology and surgery.

Thus, while in England uterine cancer was regarded as hopeless from the surgical standpoint, and *laissez faire* was the order of the day, in France well-planned operations were often undertaken for the extirpation of the disease.

Even as early as 1801 Osiander successfully extirpated the cancerous cervix, and he subsequently did many such operations. Although his example was not followed in Germany, the operation was taken up in France on a large scale, and in the early part of the century many operations of this kind were done by Dupuytren, Lisfranc, Récamier and Delpech. Subsequently this method of operating was abandoned and forgotten, until it was revived by Schroeder in 1878. In the interim the only kind of operative intervention that met with any favour was the removal of such of the disease as projected into the vagina. This was effected with the knife, scissors, wire snare, *écraseur*, curette, actual cautery, or with chemical caustics; but even these limited operations were seldom undertaken. The stagnation of this period was broken by the reintroduction of Osiander's

operation of supra-vaginal amputation of the cervix by Schroeder in 1878. This was gradually accepted as the standard operation for uterine cancer in England, and it has probably been done more frequently than any of the more modern methods.

With regard to these partial operations we may well ask, with Playfair, "Is there any surgeon in his senses who would content himself with removing a slice of a cancerous breast instead of the whole disease"? Why, then, should we apply a different principle to the uterus? There is really no excuse for such inconsistency; for if a cancer be at first a local disease, then it should be curable by local means scientifically applied, so as to ensure its complete destruction. It is the perception of this that has caused a decline in the popularity of Schroeder's operation.

The excellent results lately attained by bold attempts at completely eradicating the disease from the breast and other parts of the body, clearly indicate the necessity for more radical methods.¹

Under these circumstances, vaginal total extirpation came into vogue some twenty years ago, and it has since had a considerable measure of popularity. Modern modes

"Is there anything whereof it can be said: see this is new"? It appears from the admirable treatise on surgery by Henry de Mondeville, surgeon to Philippe-le-Bel at the commencement of the 14th century, a reprint of which has lately been published by Nicaise of Paris, that some of those who lived in what we are pleased to call the dark ages had nevertheless very enlightened ideas. Henri de Mondeville specially lays it down that cancers should not be interfered with unless they are completely extirpated. "Aucun cancer ne guérit à moins d'être radicalement extirpé tout entier; en effet si peu qu'il en reste la malignité augmente dans la racine, comme dit Sérapion et aussi Rhazes." "Le meilleur traitement curatif consiste à exciser d'abord complètement le cancer entier en une fois jusqu'aux racines, à exprimer complètement le sang de la surface de l'excision, et à cautériser ensuite" . . . "Que nul ne presume guérir un cancer partie par partie avec des corrosifs, comme on fait communément; en effet, pendant qu'on corroderait une partie, la malignité de l'autre augmenterait. Aussi faut il l'enlever en une fois tout entier et non successivement."

of operating are the outcome of the procedures elaborated mainly by Hennig, Czerny, Schroeder, Martin and Péan. Here again we have to do with the revival of an operation that, after a brief initial tentative period, had been abandoned and forgotten for half a century ; Palletta (1812), Langenbeck (1813), Sauter (1822), Blundell (1828), and Récamier (1829), are the chief of these early pioneers.

We now come to the present time, when the conviction seems to be gaining ground that, inasmuch as the disease is seldom limited solely to the uterus, it cannot be eradicated *per vaginam*, for the object of modern operations is total extirpation of the disease, rather than of the uterus itself. Hence the revival of abdominal total extirpation—which had been essayed by Freund in 1878—with which the names of Mackenrodt, Rumpf, Clark, Ries and Werder are more particularly associated. Although this method of operating has hitherto met with hardly any recognition in this country, it seems to me that the time has now come for giving it serious consideration.

Remarks on Mr. Roger Williams' Paper.

Dr. MACNAUGHTON-JONES, having remarked on the interesting summary of the successive advances made in the histology of uterine tumours during the century, given by Mr. Roger Williams, said that there was one point in connection with the pathology of these tumours which, of late years, had been made quite apparent, viz., the several degenerative changes which they were liable to undergo. Such degenerative changes greatly increased the risk to the woman, and had not often been discovered in the past from want of careful examination of the tumours. Countless fibroids had been exhibited which had never been thoroughly examined, and, consequently, without discovery of degenerative changes which should end fatally for the woman, The occurrence of direct degenerative transition from myoma into sarcoma was so very rare—still more so into

carcinoma—that, for practical purposes, we need not take it into consideration for our prognosis; though the invasion of a fibroma by carcinoma from the uterine structures was not infrequent. A decision as to the advisability of operating for a myoma was influenced not only by the possibility of such inherent changes in the tumour, but by all the collateral consequences which were proved to arise out of it, deaths from which occurred indirectly, independent of those which were due to direct local effects of the tumour itself. There was no reason why—seeing what the mortality from hysterectomy now was—surgical principles and rules of practice should be different in the case of myoma of the uterus to those acted upon in the instance of any other tumour in the body. As to cancer, there was no longer any question. Cancer, once recognised in any part of the uterus, meant complete removal of the organ. The Reiss-Rumpf-Clark operation, if we should decide in advanced carcinoma to operate, appeared to be the step most advisable to take. As to vaginal or abdominal hysterectomy, the rules of choice seem to be clear in the case of myoma. Only tumours of a certain size and with certain surroundings and complications should be removed by the vagina. For all others the abdominal route was the best. As for cancer, for the vast majority of cases—assuming that they were operated upon at the proper time—vaginal hysterectomy was the operation of selection. The use of clamps for *permanent* hæmostasis in hysterectomy for myomata was a thing of the past, and he wished to say of Doyen's lever forceps, that that surgeon's idea in regard to it was not so much great rapidity of operation as reduction in the size of the pedicle and facility in the subsequent application of the ligature.

Dr. HEYWOOD SMITH said there were cases of vaginal hysterectomy where the use of thin strong clamps was advisable, though there was no doubt that the use of such a large number as were formerly employed was inconvenient and unnecessary. The result of hæmorrhage after the use

of clamps would be greatly lessened if operators allowed them to remain on at least three or four days. He thought that in considering whether a fibroid tumour should or should not be removed, the surgeon should not only take into consideration the shortening of life that its presence involved, but also the way it incapacitated the sufferer from work. He was therefore of opinion that among the working classes the necessity for operation was relatively great.

Mr. FURNEAUX JORDAN said that in his opinion clamps might be used to a greater extent than they were. In cancer of the uterine wall, if the disease had extended to the broad ligament it should be left alone, otherwise he performed vaginal hysterectomy, and invariably left one large clamp on each side for forty-eight hours. Clamps shortened the operation considerably, could be applied where ligature would be difficult, and the injury to the parts in the vicinity of the uterus decreased the liability to recurrence.

He formerly removed myoma by the vaginal route when possible, but now selected the abdominal in preference. Between the extra- and intra- abdominal method of treating the stump there was no room for comparison and the former had practically died out.

Dr. ROUTH thought that myomata were frequently due to the absence of natural sexual gratification. He believed there was a relationship between sterility and myomata, but not that usually accepted. Myomata did not as a rule develop until after 35, while sterility, even in married women, generally manifested itself long prior to this age and could not therefore be regarded as a result of these tumours. It was possible that the excessive quantity of blood directed to the uterus and designed to nourish a foetus, then not present nor possible, stimulated a portion of the organ to undue growth, and a myoma resulted.

Dr. HERBERT SNOW found it impossible to consider uterine myomata of congenital origin. The tumours which arise from embryonic residua, and on which he ventured to confer the name of blastomata (blastos germ), almost

invariably showed a mixture of diverse tissues. Myomata consist of one, and for that reason alone were assuredly not congenital. Moreover, they could be usually traced to one or both of two causes : (1) Uterine congestive conditions, long preceding the growth. (2) The corset ; negroes were exempt in their native wilds, but when they wore stays, as in America, were as prone to myomata as the whites. In respect of treatment, few surgeons would now treat a pedicle by the extra-abdominal method ; and he agreed with Dr. Macnaughton-Jones as to the inadvisability of using the clamp for securing hæmostasis.

Mr. ROGER WILLIAMS, in reply, said that myomatous tumours rarely became malignant. There were not more than a dozen cases of primary cancer of myomata on record, and several of these were imperfectly described. Sarcomatous disease of these tumours was a well-recognised occurrence, but it was decidedly rare.

ORIGINAL COMMUNICATION.**ON HÆMORRHAGE, HÆMOSTASIS, AND PROTECTION OF THE
BLADDER AND URETERS IN DEALING WITH MYOMATA,
WITH SOME REMARKS ON THE CHOICE OF OPERATION
AND OPERATIVE TECHNIQUE.****BY FREDERICK EDGE, M.D., F.R.C.S., &c.****HÆMORRHAGE.**

THE loss of blood in operations for myoma of the uterus varies greatly ; in the simple removal of the appendages there may be hardly any at all, while disastrous and even fatal bleeding may arise from the opening of large sinuses in performing hysterectomy.

It is difficult to estimate the relative capacities of the blood-vessels of the uterus, but the uterine arteries are the main pipes of supply and I am convinced that the current anatomical plates represent the ovarian arteries much larger than they are in reality ; the ascending anastomotic branch of the uterine artery upon the uterine cornu bleeds much more freely than the main ovarian trunk. It is always to be remembered that nearly all the bleeding is from veins kept distended by the arteries and that once the latter are tied the loss is not alarming.

Doyen's method of hysterectomy is a practical illustration of the sources and extent of the bleeding ; the broad ligaments are divided before ligature, the assistant controlling the vessels between the fingers and thumbs of his two hands, and even if he lets the broad ligaments slip the hæmorrhage is not such as need disconcert the operator. Two arteries spout, the uterine ; two trickle, the ovarian ; and perhaps one or two branches require a ligature. The total loss

is not so severe as that which occurs in an amputation of the breast, nor are the vessels as large. Since this is so, how is it we get such terrible hæmorrhage from the veins in some methods of hysterectomy? It is because the veins are kept distended by the arteries, and as these operations are usually slow, although the arteries are small and, being tortuous, are at low pressure, in the thirty to sixty minutes of the operation they have time to send nearly all the blood in the body through these uterine veins. Baer has grasped this fact and simply ties the two uterine and the two ovarian arteries and then cuts out the uterus and myoma, taking no notice of the veins. The veins do not bleed back [regurgitate blood], because they have valves. Doyen picks up and ties the arteries and then deals with the appendages and peritoneum in the way most suitable for the case. If the appendages be left and a gauze drain be placed through the vagina the result will probably be equally good, care being taken to prevent any loop of intestine from being caught by the gauze plug and obstructed.

HÆMOSTASIS.

Many different methods of securing blood-vessels and arresting hæmorrhage have been at different times employed by different operators. I began myself by using well boiled silk ligatures, and after trying other materials have generally returned to silk again. Silk is safe and clean, but the ligatures are not absorbed and consequently the lower ones become infected in a considerable number of cases, and until they have worked their way out lead to a discharge, perhaps for several months. Kocher's rule is to use silk in all cases unless there is suppuration, when catgut is employed.

After seeing Doyen use his elastic pressure forceps in hysterectomy; I began to use them in suitable cases, and as regards bleeding have never had any accident, but in one instance; when I came to take the clamps off, a blade of one of them was broken, and it seemed to me that such an

accident might just as possibly have happened within a few hours of the operation as later, and happening earlier, might have been followed by severe or even fatal bleeding. I now use them only when some pedicle or bleeding stump is so difficult of access that I am unable to ligature it, or in hysterectomy for prolapse of the uterus, where the increased sloughing caused by the forceps, compared with the ligature, is of value in giving a deeper and denser scar. This leads me to say that the ideal method is necessarily that which Doyen and Sneguireff use in abdominal hysterectomy; the vessels are cut before ligature and are picked up cleanly, as in the amputation of a limb or breast.

Angiotripsy, a method familiar to and practised by us all, was well known and appreciated before Doyen applied it to the larger vessels, where it is not always safe and is perhaps unnecessary, inasmuch as it does not save any time worth consideration. I myself use small elastic pressure forceps, in fact miniature Doyen's clamps, with a deep rack, so that great pressure can be put on any vessel picked up. With these I crush any vessel visible on the face of the ligatured stump, so that, should the ligature slip, the vessel may remain occluded and no bleeding occur.

I have used catgut in many forms, have several times abandoned and again returned to it; at present I am strongly in favour of it, and am using Macfarlane's sulphochromic catgut, which I soak in ether for twenty-four hours and then boil in Mayo Robson's brass cylinder in xylol or methylated spirit. While I think more highly of the xylol, for immediate use I prefer boiling in spirit.

After boiling in xylol I keep the gut in rectified spirit in canada balsam bottles, one link in each bottle. As the lids of these bottles overlap the necks the dust does not get in at the moment of removing the lid. I find that the catgut coming out of rectified spirit is more pliable and less brittle than that direct from xylol.

A point worth noting in working with catgut is that if a small portion of tissue only be taken up with each ligature,

no great amount of force need be used in tying. Hypothetically I use two ligatures on the posterior vaginal wall, three on the base of each broad ligament, and three more on each side above the first three. This is four ligatures to each broad ligament, and an anterior and a posterior ligature of the vaginal wall near the base of each ligament. Any bleeding points are then picked up and the vagina is closed or not, according to the state of the tissues operated on. If the sutures on the posterior vaginal wall be tied to those on the anterior bases of the broad ligaments, the pelvic floor is closed sufficiently to prevent any descent of the bowels, and at the same time free drainage is left.

In removing fibroid polypi there is no need for anything to control the bleeding more than an iodoform gauze plug. The use of écraseurs and wire nooses and the fear of excessive bleeding can only have been based upon false ideas and probably on removals of portions of the uterine wall by mistake.

In enucleating myomata by the vagina after splitting the lips of the cervix the bleeding from the venous sinuses is often severe. Here we must hasten the operation and plug the uterine cavity and that from which the myoma has been taken ; the uterus will then contract and the bleeding cease as naturally as after labour.

In making the vaginal incisions in combined hysterectomy we not infrequently meet with large vessels, chiefly venous, but the azygos and circular arteries are sometimes much bigger than usual. It is therefore better to cut through the mucous membrane only round the cervix and then to continue the separation bluntly with the finger for some distance in front and behind ; it is not important to separate far in front, but the pouch of Douglas should be opened if this can be done without undue cutting or strain. (Of course in favourable cases the uterine arteries can be secured from the vagina, and abdominal procedure is then simple.) As a rule, a couple of compresses in the vagina,

one before and one behind the volsella on the cervix, will check the bleeding.

In vaginal hysterectomy, it may be again stated, any bleeding that occurs after ligature and section of the broad ligaments will, nine times out of ten, come from the uterine arteries, or their branches. This means that instead of pulling down high pedicles we should at once inspect the lower segments of the broad ligaments for the bleeding points. There is sometimes severe hæmorrhage from the posterior vaginal wall, but it is easily brought under observation and secured; it comes from vaginal and hæmorrhoidal arteries.

I ought perhaps to mention that as a rule too big a bunch of tissue is caught in the first ligature. It is safer to catch the utero-sacral ligament with the posterior segment of the base of the broad ligament in one suture, then to take the anterior segment in another; the third suture will then secure the uterine artery without too much adventitious tissue and tension, so that the ligatured stump, when it is divided, does not shrink and allow the ligature to hang loosely upon it and thus release the artery to bleed, but the ligature retains its hold upon the artery.

In ligaturing from the abdominal side, the first sutures should be passed beneath the infundibulo-pelvic ligament, unless it be desired to save the ovary.¹ The second set secure the middle portions of the broad ligaments, and as a rule just miss the uterine arteries. Some vein is generally pricked, or the forceps applied on the uterine side may slip

¹ Howard Kelly has pointed out that at the infundibulo-pelvic margin the two layers of the peritoneum of the broad ligament have practically nothing between them; the ovarian artery and pampiniform plexus of veins are well gathered up into little compass, and with care there is no danger of wounding any large thin-walled vein of the broad ligament. The selection of this spot is essential for the removal of the ovaries and tubes: the suture is passed, the loop is cut, one half is tied over the infundibulo-pelvic ligament, and the other is tied internally to the ovary and tube, near the uterine horn. The tube and ovary on each side having been so treated and cut away, the ligatures will be found on each

off and there may be a great deal of hæmorrhage from the vessels of the uterus and tumour. This may render the further procedure of separating the bladder and opening the posterior fornix very difficult, and may lead to grave loss of blood.

Baer, Sneguireff, Kelly and others, after tying the ovarian arteries, at once aim at securing the uterine vessels; and Doyen, in suitable cases, promptly divides the remainder of the broad ligaments, including the uterine arteries, which he picks up and secures separately; they are no doubt right, the veins do not matter as they do not bleed after their supply from the uterine arteries is cut off. When an assistant cannot control the broad ligament stumps a pair of pressure forceps on each will do so, and can be taken off one after the other when everything is ready for picking up the larger vessels; some of these may be seen and secured before the clamps are released.

My views are that in hysterectomy—

(1) Direct ligature of the vessels is to be aimed at; for this catgut is best because it is absorbed.

(2) When direct ligature is impossible, the broad ligaments should be ligatured in sections; the sections should be small, and the uterine and ovarian vessels, when seen on the face of a stump, should be separately secured.

(3) Angiotripsy should be always used for small points, and combined with ligature may be used for large vessels.

(4) Clamps for the broad ligaments or *serre-nœuds* for extra peritoneal securing of the stump, are only to be

side to have been drawn apart, the one to the pelvic wall, and the other to the uterine cornu, while between them lies the sharp margin of the two layers of the peritoneum of the broad ligament, parallel and closely applied. As this margin contains no vessels it wants no suture; it offers no space for the strangulation of loops of bowel, and as it is elastic there is no pressure on the rectum, as there is when the appendages are removed by the bunching suture. This procedure renders the removal of non-adherent adnexa so simple and sure that one may well regret the comparative uncertainty of this method of treatment of myomata.

used when ligature is impossible, or some secondary action is aimed at, as in vaginal hysterectomy for prolapse, or, finally, when rapidity of operation is of unusual consequence.

(5) In using catgut care is required (a) not to include too much tissue in each ligature; (b) not to use too great force; (c) to tie any vessels on the face of the stump.

(6) Silk is our great reserve when catgut is bad or unsatisfactory to the surgeon; it is so much more easy to work and its disadvantages are so secondary that it may be employed without hesitation.

(7) When catgut or silk sutures have been used the after-course is usually straight and smooth.

With clamps this is not so, we have the discomfort and apprehension the presence of such instruments in her vagina causes the patient and our own anxiety till they come away; accidents have happened; moreover, there is a slough to come away in from seven to ten days, or even later, though I find I can to a great extent avoid this slough by taking off the clamps in eighteen to twenty-four hours, and so allowing some intercellular circulation before the distal portion of the stump is dead. I have known perforation of the bowel to be caused by pressure of the points of the clamps, while if a patient is at all restless the clamps may be forced off the ligaments and in difficult cases cannot be used at all.

The blood-vessels should be picked up cleanly, crushed with elastic artery forceps, and ligatured with catgut or fine silk.

PROTECTION OF THE BLADDER AND URETERS.

The bladder requires careful consideration in several stages of the operation. The peritoneal cavity should be opened at the highest point of the abdominal incision, and with very great care, since the bladder is often carried upwards and forwards, especially when the myomatous enlargement chiefly affects the anterior wall of the uterus.

In separating the bladder from the anterior face of the fundus and cervix from above downwards there is seldom any great difficulty. An incision is made, extending from one round ligament to the other, across the anterior wall of the uterus above the reflection of the peritoneum from the bladder. The peritoneum is then stripped down with a compress until the vaginal mucous membrane is reached, and if the volsella have been left on the cervix the anterior blade can be felt and cut down upon. Some operators prefer to cut down upon an obturator or upon a curved pair of forceps passed into the anterior vaginal fornix. The safest way is to open the posterior vaginal fornix from the pouch of Douglas upon the volsella or upon an obturator or pair of forceps. When this has been done the cervix is seized and drawn up and the mucous membrane divided; the finger can then be passed down below the os and worked up into the connective tissue between the bladder and the uterus until it can be cut down upon from the utero-vesical peritoneal pouch. If the vaginal mucous membrane cannot be divided in front because of the fixity of the cervix, or because it cannot be brought into view, the finger passed into the vagina and round the cervix still affords the best obturator for cutting down upon.

When operating from the vagina, the bladder is best avoided by working into the uterine tissues, for it must be remembered that the vesical and uterine muscular coats are not always separate but retain their ontogenetical connection. Doyen's method is simply an inverted vaginal way of separating the bladder from the uterus, with the advantage that the cervix is drawn backwards and upwards, while the bladder, held forwards by its attachments, is kept as far as possible from the anterior lip of the uterus.

The ureters have not given trouble in any of my cases. I have, in several instances where the broad ligaments were opened up by myomatous masses, seen them and have carefully drawn them to one side. Doyen's method of separating the cervix up to the base of the broad ligaments, that

is to say, as far as the uterine arteries, gives even more protection to the ureters than to the bladder. The ureters are by it completely removed from the field of ligature, and can hardly be injured if his method of picking up bleeding points, instead of ligaturing *en masse*, be carried out.

The preliminary separation of the cervix from the vaginal side also assists greatly in preserving the ureters ; the fingers should be passed in between the bladder and the anterior uterine (cervical) wall and used to separate the parts somewhat widely to each side ; this carries the ureters to the side away from the ligatures. When possible the cervix should be pulled well down with volsella before ligaturing, so as to draw it and the uterine arteries through the sling formed by the ureters and leave the arteries free for tying without any danger to the ureters, the needle point being, of course, kept to the uterine tissues and not allowed to stray outwards. In malignant infiltration this procedure cannot be done, but then unless the uterus can be drawn down it is generally futile to remove it for malignant disease. Such fixation is sometimes inflammatory, and a week or two in bed may, even in malignant cases, do much to remove it.

I have not yet catheterised the ureters, but the preliminary palpation of their vaginal and subligamentary portions will undoubtedly assist the operator. Should one of the ureters be simply divided without any length being removed, the upper cut end may be fixed into the lower one, and the union will usually be good.

CHOICE OF OPERATION.

The situation, size, number and consistence of the myomata, and their relation to the uterus and to the adjacent ligaments, are most important in deciding upon the method of attack and choice of operation, and the first condition to be considered is the fibroid polypus when the myoma is found to be protruding through the cervical canal. The cervix is seized with volsella, if possible before the amputation, and the protruding mass is cut away with

scissors or knife, and the pedicle, if there be one, may be ligatured ; but as a rule plugging is quite sufficient, as the arteries are very small and the bleeding is venous. If the mass be cut away carefully and the pedicle or deeper portion be attacked within view there need be no fear of cutting through the uterine wall, and even if this should be done, the preliminary washing and cleaning will prevent sepsis, and a few catgut sutures will shut off the peritoneal cavity.

The uterus should after this be carefully examined so that any other myomatous nodules may be enucleated while the cavity is patent and easily manipulated. When the cavity is dilated any submucous myoma, not larger than a Tangerine orange, may be easily dealt with in this way, but with tumours of a larger size the operation becomes more severe and laborious, for the larger myoma become interstitial rather than submucous, and more complicated procedures are necessary. The mucous membrane and capsule should be split over the tumour and the finger passed inside the capsule and worked about between the growth and the capsule. This frees the myoma and at the same time enables the operator to gain a clearer idea of its size and consistence. Volsella and scissors are used to cut out V-shaped pieces until the mass can be got away. Doyen's cutting tubes are very powerful instruments, and if used carelessly may do irreparable damage, but are very good for gouging out the first portions of the myoma, and thus enabling the scissors and volsella to come in play.

When the tumour is as big as a foetal head or bigger its delivery depends a good deal upon the size of the passages, and as these tumours often occur in virgins or sterile women the passages may have to be enlarged.

The incisions usually required are in the tissue of the cervix ; the anterior wall may be divided almost to the fundus, and the peritoneum with care pushed off without injury, but there need be no excessive strain to avoid injury or opening of the peritoneum, because if the modern

cleansing and disinfection be carried out in every case, however simple, a clean wound of the peritoneum is not dangerous and need not even be closed by suture, as its sides will fall together. The posterior wall may similarly be incised high up, and there need be no anxiety about opening the peritoneum, though it is better to avoid doing so.

After such incisions any encapsuled growth can be removed by morcellement, and the anterior and posterior incisions having been sutured and plugged with iodoform gauze the uterine cavity may be washed out. The bleeding is almost entirely venous and soon stops with pressure. It is well to have transfusion apparatus ready, but a saline and brandy injection by the bowel is perhaps as good as anything. I have seen a patient die half an hour after the completion of the operation, and her death was then thought to be due to shock and to the anæsthetic which I had myself administered; but I believe that, had the patient's vessels been filled with warm saline solution by transfusion, and her neuro-vasomotor system supported by an injection of strychnine, she would have lived. Dr. Duncan attributes his great success in hysterectomy partly to continued use of strychnine.

Dr. Alexander is able to enucleate all the myomata he can find and preserve the uterus by opening the anterior and posterior peritoneal pouches and by abdominal section if necessary. This, he says, is the true treatment for myomata, but the question of regrowth and malignant degeneration of these tumours must be further investigated before we can judge of the real value of this method. Moreover, the utility of such a uterus has not been proved.

In enucleation, as in every other operation for myoma of the uterus, we are apt to pass out of one method into quite a different one, and hence the necessity for being prepared to do combined panhysterectomy, even when there is apparently only a fibroid polypus to be dealt with.

A pedunculated myoma may be carefully tied off and the bleeding easily controlled; one that is subserous may

be enucleated, and the cavity closed or plugged, and sutured to the parieties and drained.

When a myoma lies at the fundus, or there are several such tumours and some not directly assailable, we may remove the uterus, according to the nature of the case, by various methods.

To decide our mode of attack we always try in the first place to find the method which is simplest, easiest and safest, and we are prepared to remove the uterus if the one we have elected to carry out fails. While this is the *dernier ressort* for the operator, in practised hands, it makes the recovery of the patient certain. Let me repeat, that if I find myself unable to carry out the operation I have selected for the particular case perfectly, I generally proceed to hysterectomy.

The safest way of removing the uterus is by vaginal hysterectomy with subdivision or morcellement, and this is an easy method if the myoma is in the body of the uterus, and the cervix and uterine arteries are free from masses of growth. In such a case, if the uterus be too large for removal per vaginam it may be clamped in the abdominal incision or amputated supravaginally, or removed by Doyen's method, or any other way. Any method will be successful, and it is upon such cases that statistics are built up by different authors for their favourite methods.

REMOVAL OF APPENDAGES ABDOMINALLY.

The appendages may be removed by abdominal section, especially in women above 40, and the tumour will shrink. If the patient be exsanguined by excessive bleeding, this procedure is perhaps the best, and recommends itself when there is adnexal disease. I have employed it when I have had insufficient assistance, and the whole uterus was enlarged and mobile, and the removal of the appendages was absolutely simple and sure, and in cases where, for other reasons I thought it the easiest and safest, and nothing seemed likely to interfere with its immediate success; but

such cases are exceptional and imply that we are seeking immediate safety rather than theoretical perfection and thoroughness.

COMBINED HYSTERECTOMY.

Supposing that the mass is wedged into the pelvis and so adherent that the complete removal of the appendages is impossible, or might result in venous laceration or increase the pelvic tension so that the rectum would be dangerously obstructed, it is plain that any attempt at such an operation would be perilous and must not be undertaken. In another case attacked per vaginam, the operation may have been carried as far as the division round the cervix, perhaps with freeing of the bladder and opening the pouch of Douglas; but if the mass be too big, or too involved, to be removed by the vagina, an abdominal cœliotomy is inevitable.

The Trendelenburg position undoubtedly is of great advantage in keeping the field of action clear, and possibly in lowering the arterial and venous pressure and assisting anæsthesia. Leopold's tin back rest is sufficient.

All adhesions should then be carefully separated, and the situation of the growth and the implication of the uterus accurately made out. Enucleation with suture or drainage, if it seem feasible, may then be tried. Generally ligature and division of the broad ligaments downwards soon releases the uterus; here the early freeing of the bladder after incision of the peritoneum is of great help, and the previous opening of the pouch of Douglas and the leaving a pair of thick volsella grasping both lips of the cervix, is a most important preliminary. Such volsella may be curved, and forceps have been constructed with special crowns for this purpose, but an ordinary strong pair prove very useful and may be employed later to draw down the gauze into the vagina.

When the pouch of Douglas has been opened and the anterior vaginal fornix opened into after separation of the

bladder, the uterus hangs solely by its lateral ligament and vessels, and these are then ligatured.

Any myomata lower down in the cervix may be enucleated before ligature if in the way, or the ligatures may be carried down the free broad ligament (Kelly) and up the other, and the tumours thus rolled out of the implicated broad ligament from below.

Supravaginal hysterectomy or supravaginal myomohysterectomy is performed by ligation of the broad ligaments down to the cervix and including the uterine arteries. Anterior and posterior peritoneal flaps are turned down from the uterus. The cervix is cut across, and the uterine mucosa is excised on the surface of the stump. The peritoneal flaps are sutured with a running suture over the cervical stump.

Kelly's method of beginning on the more accessible broad ligament and going down this side, then cutting the cervix and attacking the other broad ligament from below upward, facilitates the carrying out of the supravaginal hysterectomy in difficult cases where the myomata involve the lower parts of uterus or grow into the broad ligaments. The facility of performance, security from infection and quick recovery, are strong advantages.

The only difficult step in panhysterectomy is, usually, the ligature of the lower portions of the broad ligaments; this is more particularly the case when no vaginal steps have been taken, as the mucous membrane holds down the cervix, and one is apt to put on several unnecessary ligatures in completing the removal of the cervix.

Supravaginal amputation of the uterus is an operation very strongly advocated in some quarters. I cannot support it myself as a routine procedure, because it leaves the cervix behind with the possibility of recurrence or malignant degeneration.

MALIGNANT DEGENERATION.

I have operated upon some sixty cases of myoma, excluding fibroid polypi, and have met with two cases of

sarcomatous degeneration or recurrence in the uterine tissue left behind. Mr. Christopher Martin has had similar experience in two cases.

In two cases, near the menopause, where I advised the patients to have no surgical interference, malignant degeneration occurred within three years, in one case in the fundus, in the other on the cervix, and when they came to see me again it was too late to do anything. These cases bear on the subject only to the extent of showing that myoma of the uterus may lead to, or become, malignant disease. Doyen also has met with cancerous degeneration of the unremoved cervix. Schauta, in his report to the International Congress at Amsterdam in 1899, gives eleven cases of sarcomatous or cancerous degeneration of the cervix, as already published in 1898. As far as my own experience has gone, recurrence and degeneration of myomata into cancer or sarcoma occur in as large a percentage of cases as deaths after operations for these tumours, and as recent results have proved that panhysterectomy is the safest operation there is no excuse for leaving the cervix, except that its removal may interfere with marital relationship by shortening the vagina, a danger to which my attention has been drawn by Mr. Furneaux Jordan, but which may be avoided if the mucous membrane be left freely on the cervix.

The important fact is overlooked, that while supravaginal hysterectomy is done only in milder and more favourable cases, deeply imbedded pelvic growths, cervical growths, and those affected with inflammatory or malignant mischief are subjected to panhysterectomy and swell its death rate. If the advocates of panhysterectomy were allowed to operate on the cases selected by the partisans of supravaginal hysterectomy, the results of the former operation, in these particular cases, would equal, if not surpass, those of the latter. However, be this as it may, as we know that when the supravaginal method is adopted the patient runs the great dangers of pelvic cellulitis and of recurrence of the growth in the cervix, in addition to the immediate risks of the operation,

we must incline to the total removal of the uterus whenever it is involved by myomatous growth to an extent that would induce the advocates of supravaginal hysterectomy to perform that operation.¹

CONCLUSIONS.

From my personal experience in the surgery of myomata I am inclined to conclude as follows :—

(1) The vagina should be carefully cleaned and the uterine cavity douched, and even curetted when possible.

(2) The essence of all methods is the securing of the arterial supply of the uterus early in the operation.

(3) It is essential that the operator should know the anatomy of the uterus and pelvic organs.

(4) He must be ready to perform panhysterectomy in what may appear to be the simplest case.

(5) In panhysterectomy the vaginal attack may, when the cervix is free, remove all difficulty, and in any case facilitates the operation and gives the operator a clearer conception of what he has to do.

¹ In a paper, "Ueber Dauerfolge nach Myomotomie" (Supravaginal Amputation), &c., &c. (*Archiv. f. Geb. u. Gyn.*, 1901, Bd. lxii., Heft. 3), Schenk says : "In case 18 carcinoma developed in the stump and within a few months caused the death of the patient, who refused operation ; Jacobs met with two similar cases ; Wehmer, one ; Menge, two ; Saver, four ; Hacker, v. Erlach, and Freund, one each ; the number of such cases recorded is therefore not a small one. Saenger, however, declares that so long as supravaginal myomo-hysterectomy gives results so much better than abdominal total hysterectomy (a mortality of 4·1 compared with 9·6 Hofmeier) the possibility of a subsequent malignant degeneration of the cervical stump cannot be accepted as a pressing indication for total extirpation ; the cervix may be kept under observation and the stump removed if degenerating." The malignant degeneration or recurrence in the stump is unfortunately not discovered in time, and its discovery and the suggestion of a second operation distresses the patient excessively, and, as in Schenk's case, the second operation is probably declined. Hofmeier's figures are not indisputable and the ratio is even reversed by several authorities. The whole question depends upon the future results of the two classes of operation. See also Flatau, *infra* Summary, p. 8.

(6) That panhysterectomy, with suture of the peritoneal flaps, and care as regards leaving plenty of vaginal mucous membrane, is the safest operation and is the only true and complete treatment of the myomatous uterus.

(7) That the question of malignant disease (degeneration or recurrence) in the cervical stump is a subject requiring further investigation.

REVIEWS.

THE HISTORY OF ANCIENT GYNÆCOLOGY. By W. J. STEWART MCKAY, M.B., M.Ch., B.Sc., Senior Surgeon to the Lewisham Hospital for Women and Children, Sydney; late Surgeon to the Benevolent Asylum Maternity Hospital, Sydney; Fellow of the British Gynæcological Society, and of the Obstetrical Society of London. Pp. xx. and 320. Demy 8vo. Price 7s. 6d. net. London: Baillière, Tindall and Cox, 1901.

IN examining the knowledge of the ancients of the diseases of women, Dr. McKay, writing at the antipodes, has had to contend with the disadvantage that he has had to procure from Europe every work he wished to consult, and often to wait not merely months, but years, before he could obtain what he wanted. We must congratulate him upon the result, a monument of patient and systematic research, infinitely more painful than it would have been had he had the facilities of reference so readily accessible in the libraries of the old world.

After considering the records which elucidate the history of medicine in Egypt, the oldest and by far the most important of which is the Papyrus Ebers (B.C. 1550), the Hindu medical writings of highest antiquity, the Charaka and Susruta Ayur-Védas, and taking due notice of early Greek science, including the Asclepian, Dr. McKay gives some account of the life and works of each author worthy of note, from Hippocrates (460 B.C.) to Paulus Ægineta (c. 600 A.D.), quoting, under classified headings, the passages bearing upon the diseases of women. In the second part of the

book he has given a general *résumé* of the anatomy and diseases of the female genital organs as known to the ancients, and of the methods of examination and treatment practised by them, so that the reader may survey the whole subject, and, should he desire it, refer for fuller detail upon points of special interest to the body of the work.

The Ebers Papyrus shows that the early Egyptians paid some attention to gynæcology: they had different words to denote the uterus, vagina and external genitals, and made examinations of the vagina and cervix. They employed not only rectal injections, but medicated suppositories and pessaries and fumigations, and treated prolapse by local applications and reposition; and though religion forbade dissection it seems possible that the existence of the ovaries was known from the practice of embalming.

The surgical knowledge of the Hindus is remarkable even if, as Max Muller believed, the Vedic writings do not date anterior to the third century. They used a varied assortment of instruments, including the three-sided needle, rectal specula, catheters, irrigators made of the bladders of cattle, and employed poultices, fomentations, and fumigations. One passage seems to imply that they looked on the Fallopian tubes as canals for the menses, and injury to them as a cause of amenorrhœa and sterility. Though their method of dissection (leaving the cadaver in a stream till the skin could be removed with a brush) gave them but a superficial knowledge of anatomy, they performed abdominal sections and operations for stone, they used the trocar for ascites, and very probably often tapped an ovarian cyst by mistake.

The pseudo-Hippocratean treatises are more important than the genuine ones as regards the diseases of women, and exhibit a great advance, but after them there is a long interval, and no work of equal value appeared till the time of Trajan. It was not till 1838 that Dietz published the work of Soranus, of which he had discovered a manuscript in the Bibliothèque Royale at Paris. In this treatise, "On

the Diseases of Women," the author deals with each affection systematically, proceeding from the accounts of it given by his predecessors to the enumeration of its causes and the detail of its symptoms, thus giving a clear picture of the malady and its various phases. It seems to be Dr. McKay's opinion, which we share, that no gynæcological treatise of such original importance was put forward from that time to the nineteenth century; it was the basis of Moschion's reputation, and is voluminously quoted by Ætius and Paulus Ægineta, not to mention less renowned writers.

Galen (who died about 200 A.D.) has the merit of having first pointed out that the Fallopian tubes were pervious and conveyed the ova to the uterus, but he added nothing to the knowledge of gynæcological disease, and his anatomical descriptions are derived from animals and not from dissection of the human uterus, and are inferior to those of Soranus. Galen indeed clung to the idea that the uterus was bicorned, the one side reserved for the male, and the other for the female foetus.

From the time of Galen medical literature shows both in subject matter and in style a rapid decline in intellectual vigour and originality. Ætius (c. 550 A.D.), the first Christian Greek writer on medicine, mixes spells and charms with more practical treatment, but his works are valuable as having preserved for us passages from authors whose original writings are lost, and as giving a better general view of the advanced knowledge of obstetrics and gynæcology than we can obtain from other authors. He reproduces an interesting chapter, "De uteri abscessu," from Archigenes; every pelvic abscess was supposed by the ancients to be one of the uterus itself, but a minute description is given of the steps to be adopted in opening such an abscess from the vagina.

The history of gynæcology after Paulus Ægineta must be sought in the writings of those physicians who flourished at Bagdad in the East, or Cordova in the West; but the Arabians, debarred by their religion from making any

examination of the female genitals, left the practice of obstetrics and gynæcology, and even such operations as embryotomy and lithotomy, in the hands of women; they acquired no new knowledge, and were content to compile or translate from the Greeks of the Byzantine Empire.

Dr. McKay has therefore not found it desirable to discuss any author later than Paulus Ægineta. This writer showed some originality in surgery. A remarkable chapter is quoted on the methods of healing abdominal wounds. He was, as regards gynæcology, merely a judicious compiler, seldom acknowledging the source of his information; but the Arabian authors refer to his opinion on almost every page of their works, and evidently considered him as one of the most eminent of their Grecian masters.

The Talmud containing the oral law of the Jews, as compiled by the Rabbin after the second destruction of Jerusalem, and the Gemara or commentaries thereon, of which there are two, the Jerusalem and the Babylonian, were not accessible to Dr. McKay till he had written his book, but he notices them in the preface, pointing out that the Rabbin practised vaginal examination, recognised the hymen, and not only performed embryotomy, but, convinced by the vivisection of animals that the uterus might be removed without a fatal result, had done the Cæsarean section on living women as well as after death.

Among much that is interesting we note that, even in the Hippocratean age, physicians were enjoined by oath not to administer drugs to procure abortion; the fumigation of the womb—a practice apparently due to the myth that the uterus, like an animal, was attracted by sweet and repelled by evil odours—almost foreshadows vaporisation so recently put forward; use of leaden sounds and tents to straighten the womb, of graduated dilators to open up the cervix, of vaginal, rectal, and intra-uterine injections, of the knee-elbow position and raised pelvis, are all mentioned in the Hippocratic treatises, and the ligature of vessels to arrest hæmorrhage was practised by Xenophon at Alexandria, and

particularly described by Celsus, while Soranus and Ætius tell of the survival for many years of women who had submitted to vaginal hysterectomy for prolapse of the womb.

A more exact study of anatomy, the discovery of anæsthetics, the advantages of asepsis in operations, especially in such as involve the genital tract or peritoneal cavity, and the increased knowledge of pathology, rendered possible only by the specimens obtained by more frequent operation, have placed us in far more favourable circumstances for dealing with the diseases of the female organs of generation than were our predecessors. It cannot be said that there is nothing new in gynæcology, but the wonder is, considering the general state of knowledge and the prejudices of even ancient civilisation, that these old writers had learned so much, observed with such accuracy, and were so resourceful in practice. Dr. McKay has given us a most interesting and welcome book ; it is a pity that the want of an index renders it less useful than it might have been.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania, &c., &c. Second edition, with 618 illustrations in the text and 7 coloured plates. Royal 8vo, pp. 846, cloth, 21s. net.

The first edition of this work appeared in 1898, and was so well received as to be exhausted in a few months. In the following year a second edition was published, bearing the names of Rebman, London, and W. B. Saunders & Co., Philadelphia, and the date 1899. The preface to this second edition stated that no extensive alterations had been made and no revision attempted ; a few typographical errors and inaccuracies were, however, corrected and the English equivalents of metric measurements were added throughout the book, except in the section on Pelvimetry and Deformities of the Pelvis, where they were judiciously omitted. As the learned author remarks, it is most desirable to have a uniform stan-

dard throughout the civilised world ; the best work in the study of deformities has been done upon that system, and the pelvimeters in common use are graded in centimetres.

From Messrs. Saunders and Company, 161, Strand, we have received for review a book which, as far as we can see—except as regards its binding and title-page—is identical with the Second Edition above described. Moreover, we find that a descriptive slip inserted, giving an abstract from a very favourable review, although undated, appeared in the *Medical Record* of April 22, 1899. No doubt, as Messrs. Saunders have now an established publishing house in London, it is desirable for trade purposes that their local address should appear on their publications ; but it is not fair, either to Professor Hirst or his readers, to affix the date 1900 to a work in which, avowedly, no extensive alterations have been made or revision attempted since 1898. As post-dating English issues of works originally published in America seems to be becoming more common, and as similar inaccuracies are not unknown, we are sorry to say, in other instances, we draw attention to the practice as one to be avoided.

As to the book itself, we have little but unqualified praise. It is particularly well arranged, and on the whole gives due consideration to the physiological as well as to the pathological aspects of obstetrics. A chapter on the anatomy of the female pelvis and sexual organs is followed by the consideration of the functions of menstruation and ovulation and the connection between them, and fertilisation and the subsequent changes in the ovum. The foetal appendages and their anomalies are then discussed, including hydramnios, cystic and myxomatous degeneration of the chorion, syphilis, and other diseases of the placenta. Of malignant growths at the placental site the author says :—" It is now admitted that both sarcomata and carcinomata may develop at the placental site—the former from the decidual cells (deciduo-sarcoma, deciduoma malignum), the latter from the syncytium (carcinoma syncytiale, syncytial cancer)."

The diseases of the foetus are even better discussed than its development, and an excellent chapter on the pathology of pregnancy is concluded by a good account of ectopic pregnancy, with a tabular statement of the menstrual history of twenty-three cases from the author's notebook, and contains some very interesting illustrations of reported ovarian pregnancies and of ruptured tubal pregnancies from fatal cases. Professor Hirst looks upon abdominal section as the only reliable and trustworthy plan of treatment, and thinks the mortality of cases so treated should not greatly, if at all, exceed 5 per cent., though in thirty-one cases of his own he lost three: two, exsanguined before operation, not recovering consciousness, and the third, a drunkard, dying from cirrhosis on the fifth day.

Though bimanual palpation is described as a means of making out the position of the child, this method is not given as much prominence as we should like, but the student who can acquire the habit of ascertaining in their natural sequence all the points mentioned by Dr. Hirst (p. 301) will not require to repeat his vaginal examinations often. Dr. Hirst's experience leads him to agree with Schultze that the placenta normally escapes like an inverted umbrella, he advocates Credé's method, and is decidedly in favour of delaying the division of the cord until sufficient time has been allowed for the foetal blood to pass out of the placenta into the body of the child. As an anæsthetic he allows, except in eclamptic cases, ether and very little of that. The involution of the uterus is particularly well described, and, though the division of the process of delivery into ten steps seems unnecessary, the mechanism of labour and its abnormalities due to the position of the child are well and clearly discussed.

The pathology of labour occupies nearly two hundred pages, and like the rest of the book is made extremely interesting by the number and excellence of the illustrations, some from classical sources, but many original; in particular we will draw attention to the representations of obstruction

to delivery caused by tumours and monstrosities, and to a temperature chart showing a sudden fall of temperature of nine degrees due to labour in the course of typhoid fever. In the succeeding chapter also, on the pathology of the puerperal state, there is a remarkable series of charts of puerperal pyrexia due to various associated morbid conditions.

The book teems with information, and is yet so firmly based on personal experience as to be eminently readable. We do not always quite agree with the author ; for instance, he looks upon undue prolongation of gestation as an evil fertile in causing tardy labour, he even suggests that, as the normal term is fixed, when it is possible to count 280 days from the commencement of the last menstruation, it may sometimes be well to give the night before the last day a dose of castor oil followed the next morning by ten grains of quinine, to ensure the labour beginning at its normal date ; and he says it is a rule of his practice never to allow any woman to go two weeks beyond term. But we doubt whether by Naegele's or any other method it is always possible to tell when a patient has passed two weeks beyond term. Like most American authorities he speaks well of *veratrum viride* in eclampsia, though it gives a higher mortality than morphia and he quotes Veit as employing as much as 3 grains of morphia in from four to seven hours, or 4·5 grains in twenty-four, with a mortality of only two in sixty, but we cannot think that Veit would entirely endorse the modern treatment by morphia. Sound as the author's views are on placenta previa, he strongly recommends *accouchement forcé* in accidental hæmorrhage, though he has lost 54 mothers out of 107 and 101 out of 108 children.

When the gravid uterus has been reposed after retroversion and supported by a pessary, we think it far better to continue the use of such pessary till the middle of the fifth month than to remove it midway between the third and fourth.

The chapter on Obstetric Operations is a little disap-

pointing ; the perforation of the aftercoming head is dismissed with less than ten lines, and no allusion is made to the serious difficulty that is by no means uncommonly met with in delivering the skull after it has been detached from the body by decapitation or otherwise. The mortality of Cæsarean section is set down as twice that of symphyseotomy in the hands of surgeons not specially trained, and as about equal in those of experts, and the limits for the latter are put at 7 cm., as in a pelvis more contracted, after symphyseotomy, it might be necessary to perform craniotomy to deliver the child.

But it must be recognised that Professor Hirst has given us a very valuable book ; his long experience as a specialist and also as a teacher, during the whole of his professional life, has given him the faculty of conveying information in a form at once practical and concise. The work is enriched by illustrations far more numerous and far better executed than is usual ; not the least instructive, from our point of view, are the profiles of the female abdomen at various months of pregnancy under normal circumstances and when associated with pendulous belly, hydramnios, twins, breech presentation, and other anomalies. A knowledge of the shape of the human figure is of quite as much importance to the medical as to the art student, and though such knowledge cannot be perfected from pictures, incorrect ideas may be amended, and many hints to accurate observation gained by the study of such illustrations as these. For teaching purposes some of the process blocks might with advantage be replaced or supplemented by diagrams.

ELECTRO-HÆMOSTASIS IN OPERATIVE SURGERY. By ALEXANDER J. C. SKENE, M.D., LL.D. Professor of Gynæcology in the Long Island College Hospital, N.Y., &c., &c. London : Henry Kimpton, 1901.

A review of this work will be found in the fifteenth volume of this journal, p. 275. The only change in the present issue is that the title page then bore the name of

D. Appleton & Co., New York, and the date 1899. There is the more objection to thus post-dating the publication as the book is avowedly a supplement to Dr. Skene's work on the "Diseases of Women," which appeared in 1898.

POINTS OF PRACTICAL INTEREST IN GYNÆCOLOGY. By H. MACNAUGHTON-JONES, M.D., M.Ch., Q.U.I., &c., &c. Demy 8vo., pp. xii. and 124, with 12 plates. London : Baillière, Tindall & Cox, 1901.

This book is a reprint in a convenient form of a series of articles which recently appeared in the "Edinburgh Medical Journal." Those of our readers who had not an opportunity of reading them *in extenso* when there published have had their attention drawn to them in some abstracts that appeared in our summary in volume xvi. (pp. 121, 124, 126, 192) and will welcome them in their complete form, in which they are readily available for study or reference. The preface consists chiefly of a significant quotation from Dr. Johnson's "Adventurer," but the author's wide experience has given his articles the "practical interest" claimed in the title of the work.

ATLAS AND EPITOME OF GYNÆCOLOGY. By Dr. OSCAR SCHAEFFER, Privat-Docent of Obstetrics and Gynæcology in the University of Heidelberg. Authorised Translation from the Second German Edition, edited by RICHARD C. NORRIS, A.M., M.D., Lecturer on Clinical and Operative Obstetrics in the University of Pennsylvania, &c. With 207 coloured illustrations on 90 plates, and 62 illustrations in the text. Philadelphia : W. B. Saunders & Co., 1900. Crown 8vo., pp. 272, 15s. net.

To the experienced pathologist with adequate material at his command, or to an operating gynæcologist with constant opportunities not only of seeing but of handling and, it may be, carefully examining morbid specimens of the female genitalia, this Atlas may offer but slight interest, but

it will be very welcome to the practitioner as a valuable aid in elucidating and supplementing his necessarily limited personal observations, and to the student, not only for its accurate representations of anatomical preparations and the more or less diagrammatical drawings which facilitate their interpretation, but also for the continuous text, which is as condensed as is compatible with clearness, and as complete as is possible in a work of the size. The ætiology, development, secondary influence, progress, and termination of each affection is discussed from a practical standpoint, and the conservative measures throughout recommended will be the more appreciated by those who are naturally more interested in non-operative treatment.

As assistant at the Munich Clinic, the author was able to avail himself of the clinical material of Professor v. Winckel, and also that of Professor Kehrer, and in the Second German edition he had at his disposal much new matter for illustration, and the latest scientific acquirements were incorporated in the text.

The editor has noted the points in which the treatment recommended differs from that now approved of in America, and we agree with him that Alexander's operation is to be preferred to retro-fixatio colli or vagino-fixation; that for parovarian cysts coeliotomy and complete removal should take the place of tapping, and that ovarian cysts which cause symptoms should be removed, even when such symptoms are not unbearable.

**VADEMECUM FÜR HISTOPATHOLOGISCHE UNTERSUCHUNGEN
IN DER GYNAECOLOGIE.** Für Aerzte und Studierende,
von Dr. E. G. ORTHMANN in Berlin, mit 73 Abbildungen.
Berlin: 1901, S. Karger; demy 8vo, pp. x. and 174,
cloth; 5 marks.

The importance of the microscope in gynæcology is now so freely recognised that every one desires to be able to estimate the significance of his own specimens in all doubtful cases. This manual will serve not only as a basis

for instruction in the first principles of microscopical diagnosis but as a help to the junior practitioner working with his own material. We are not without reliable technical guides in English, but we have met with no manual in which the instructions are more clear and concise. The first part of the book contains in some nineteen pages the descriptions of the microscope and other apparatus required, of the hardening solutions and other reagents most useful in gynæcological work, as well as of the methods of preparing and staining specimens, including that of micro-organisms in sections and cover-glass preparations. Pick's rapid method for recent specimens is given as well as that of Kieffer, which, though longer, is better adapted for very soft and loose material. The author, one of the foremost practical pathologists in Germany, recommends for general use a couple of objectives and two eye-pieces giving a magnification of from 50 to 400; for micro-organisms an oil objective of one-twelfth, and speaks of Hartnack's instruments and those of Leitz as equally good.

It is perhaps the second and diagnostic part of the work that will be most interesting to English readers; in it the author, with the hope of facilitating the recognition and significance of the most important morbid changes in the female sexual organs, has given us a very large number of excellent drawings of microscopical specimens minutely described and preceded by statements of their macroscopic aspects. To keep the book within prescribed limits he has not touched upon the normal histology of the genitalia, with which he presumes his readers are acquainted, and the lesions of such affections as are of exceptional rarity are dealt with briefly or not at all. The illustrations, with the exception of those of a solid ovarian embryoma (Wilms) and an ovarian endothelioma lymphaticum (Gomorski), are all from the author's preparations; some of them appeared in Martin's "*Diseases of the Adnexa*." The method of staining is given, but not the magnification. Attention is drawn to the occurrence of syncytioma malignum in tubal preg-

nancy, and the solid as well as the cystic embryomata are included among the innocent ovarian tumours.

The publishers may be congratulated on the excellent printing and general production of the work.

TRANSACTIONS OF THE NORTH OF ENGLAND OBSTETRICAL SOCIETY FOR 1900.

By the courtesy of the Secretary we have received a copy of the *Transactions of the North of England Obstetrical and Gynæcological Society*, which is a very effective proof of the excellent work done by that body during the last year and of the firm and important position it occupies in the esteem of the medical profession. Eight meetings were held during the year, three at Manchester, two at Liverpool, two at Sheffield and one at Leeds, and were well attended. The more important papers were perhaps the address by the President, Dr. Hellier, "On infection of the genital canal"; Dr. Arnold Lea's paper on "The influence of gonorrhœa on the puerperium, with analysis of fifty cases"; Dr. Grimsdale's paper in opening a discussion on "The treatment of fibromyoma of the uterus"; Dr. E. T. Davies' account of three ovarian tumours, two with twisted pedicles and the third complicated by peritonitis, all of which recovered after laparotomy, and Professor Japp Sinclair's papers on "The prevention and relief of pain in minor gynæcology" and "A series of ten successful cases of Cæsarean section." All of these were more or less fully reported in the weekly medical journals. Of the last mentioned we are glad, on account of its very great significance, to be able to give an abstract in this month's summary.

THE MEDICAL ANNUAL, 1901 : A YEAR-BOOK OF TREATMENT, AND PRACTITIONER'S INDEX. 900 pp., 8vo. Copiously illustrated with plain and coloured full-page plates. 7s. 6d. net, post free. Bristol : John Wright and Co. 1901.

This Annual has reached its nineteenth year and is so well known that it is only necessary to say that this latest

volume is quite up to date and that the information continues to be supplied by a number of most skilled contributors. So full indeed of matter is it that any detailed comment is impossible, and nearly every busy practitioner must have long since found it indispensable as a means of enabling him to keep up with recent advances. It combines an annual retrospect with a medical encyclopædia, and its references are admirably arranged.

F. F. S.

MERCK'S REPORT ON THE YEAR 1900.

This valuable Annual was noticed by us last year (vol. xvi., p. 106); the present issue is somewhat enlarged by a review, from the manufacturer's point of view, of the fourth edition of the "German Pharmacopœia," and it is greatly improved by the addition to the index of the headings of diseases generally treated by specialists, such as "Gynæcology and Obstetrics," "Pædiatrics," &c., which facilitate reference materially. Of the preparations to which we drew attention last year, Dionin has since been favourably reported on by Bloch and Walther for its effects in inflammatory dysmenorrhœa, especially in young persons, and in pelvic pain, but a smaller dose (0.66 grns. in suppository) is recommended. A new drug, Kryofin, also is recommended for dysmenorrhœa; Eumenol is not again mentioned. Gelatine has sustained its reputation in metrorrhagia, and has been found useful in melæna neonatorum. The good results of Landau's yeast treatment of leucorrhœa are confirmed, as is also the action of Stypticine as a uterine sedative and hæmostatic. Corpora lutea sicca and Glandula parotis sicca are both omitted, but Ovaria sicca pulverisata has been found not to interfere with the nitrogenous elements of the body, and adapted to improve retarded or disturbed nutrition during and due to pregnancy; it is reported by Geissler to have rapidly relieved paroxysms of angina pectoris connected with the menopause. Schober reports very favourably of the effect of administering the combined extracts of

the mammary and thyroid glands in menorrhagia, metrorrhagia and fibroid tumours.

Fersan, a compound prepared from the fresh blood of cattle, is well spoken of in chlorosis, while patients who cannot take iron may be given the cacodylate, or sometimes the persulphate, of sodium. In cancer of the uterus pain may be relieved by aceto-salicylic acid (Aspirine), and offensive discharge by Guiasanol Glycogenol relieves both. Formaldehyde has a remarkably beneficial influence upon ulceration, and Nectrianin, while controlling both the malodorous discharge and the hæmorrhage, is said to be a more powerful analgesic than morphia. Fourteen cases of inoperable cancer were treated by daily injections of 3cc. of nectrianin; the injections were quite innocuous, but did not have any effect on the development of the malignant growth or its metastases, and any interruption of the treatment was invariably followed by an aggravation of the disease. The organic silver compounds continue to be largely used in the treatment of gonorrhœa and Itrol (the citrate) as a prophylactic against blenorhœa neonatorum, but Credé's silver treatment of sepsis is but faintly praised. In many grave cases of puerperal fever the vitalising action of Glycogenol, when not too sparingly employed, has seemed to be of use. Much stress is laid upon the hæmostatic deodorising and antiseptic properties of peroxide of hydrogen (which Messrs. Merck can now furnish in a solution of 30 per cent. by weight), its daily application on tampons, or by intrauterine injection, has been most serviceable in endometritis and parametritis. Ichthalbine, a new and not expensive compound of ichthyol, has met with uniformly favourable criticism; it is the best form to give internally, and has a good effect on intestinal sepsis and upon nutrition; locally it is beneficial in gonorrhœic and catarrhal inflammation of the vagina and erosions of the portio (daily insufflation), and in hyperplastic chronic metritis and parametric exudations (tampons). For the latter Iodol is also recommended, but is rather more expensive.

This Annual contains an immense amount of information most skilfully compiled, and the references to the published facts are supplied throughout.

OUR BABY. For Mothers and Nurses. BY Mrs. LANGTON HEWER. Seventh Edition revised. Pp. viii. and 154. Cr. 8vo. Paper boards, 1s. 6d. Bristol : John Wright and Co. 1901.

When a book of this kind has reached its "Twenty-third Thousand" it may be presumed, not only that its popularity is assured, but that it has in it something worth saying. This is certainly the case with Mrs. Langton Hewer's book, which may be strongly recommended to the mothers and nurses for whom it is written.

Mrs. Langton Hewer's experience has taught her to take nothing for granted, to leave nothing to untrained common sense, and often she boldly dares to be obvious. The healthy natural tone of the book deserves our highest praise. We think Mrs. Langton Hewer would heartily agree with the young wife who expressed her conviction that "It is the loveliest thing in the world to be a mother"! Her protest against the shirking of a mother's natural duty is both timely and forcible. "It has become," she writes, "too much the fashion of late years for mothers to decide deliberately not to nurse their babies, quite forgetting that having brought a child into the world, it is their simple duty to give to that child the nourishment which nature has provided." On one point only we would quarrel with Mrs. Langton Hewer; is it desirable for all mothers to possess a clinical thermometer? We think not. Only those who have witnessed it know the misery caused to herself and her household by the nervous mother who is constantly "taking temperature"!

BRITISH GYNÆCOLOGICAL SOCIETY.

RESOLUTION OF THE COUNCIL IN REGARD TO MEDICAL WOMEN.

THE question of the welcoming of women to the meetings of the Society having been recently brought before the Council, it was thought well to take the opinion of Fellows residing in the United Kingdom and Ireland on the matter. Accordingly the following circular was distributed :—

“DEAR SIR,

“We are instructed by the Council to ask you to kindly reply on the enclosed post card whether you approve of the proposition that has been made to the Council that duly Qualified Medical Women should be welcomed as Fellows of the Society if proposed and ballotted for in the ordinary manner.

“By the rules of the Society they are eligible for election as Fellows, being registered medical practitioners. You are aware that last year a distinguished woman Gynæcologist was Vice-President of the Obstetrical Section of the British Medical Association at Ipswich, and that important papers on Gynæcology were read in the section by women and discussed. The Obstetrical Society of Edinburgh has admitted women into its ranks. They have been appointed examiners by some licensing bodies. Throughout America they take part in the proceedings of the various Medical and Scientific Societies, and in England have been admitted into the Ophthalmological and Anæsthetical Societies.

The Council, having been approached with a view to the admission of women to the Society, is not averse to the consideration of this question, affecting as it does a large class of our fellow women practitioners, and will therefore be glad to know what your view is on the question.

CHARLES RYALL, F.R.C.S. }
J. H. SWANTON, M.D. } *Hon. Secs.*

Kindly send reply at your earliest convenience.

POST CARD.—*It is my feeling that women should.....be
welcomed into the Society.*

Name.....

Address.....

.....

Of the 328 Fellows, 172 replied that they were in favour of welcoming women ; 55 were opposed to the proposal ; 3 answered indefinitely, and 98 did not reply. Six past Presidents out of 7 were in favour of the welcome, 20 Vice-Presidents out of 25, and 27 past members of Council out of 34. On consideration of this result the Council passed the following resolution :—

“Seeing that the Fellows of the Society who replied to the recent circular issued by the Council have by a large majority decided in favour of welcoming women practitioners into the Society, this Council, wishing to place itself in accord with the opinion of the Fellows, acquiesces in the feeling that such welcome shall be accorded to any Women Practitioners who may be duly elected Fellows.”

THE BRITISH GYNÆCOLOGICAL JOURNAL.

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AUGUST, 1901.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, APRIL 25, 1901.

J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT,
IN THE CHAIR.

THE PRESIDENT read a communication received from the Home Office in response to the vote of condolence passed by the Society on February 14. It was as follows :—

HOME OFFICE, WHITEHALL,
30th March, 1901.

SIR,

I am commanded by the King to convey to you hereby His Majesty's thanks for the loyal and dutiful Address of the President and Council of the British Gynæcological Society expressing their sympathy with His Majesty and the Royal Family on the occasion of the lamented death of Her late Majesty Queen Victoria.

I am, Sir,

Your obedient servant,

THOS. T. RITCHIE.

*The President of the British Gynæcological Society,
20, Hanover Square, W.*

VOL. XVII.—NO. 66.

The PRESIDENT then, referring to the discussion on displacements, which was to follow, said it would be impossible to find a subject in the whole range of gynæcology of greater interest to the Fellows of the Society, whether gynæcologists or general practitioners. No subject had been evolved and elaborated with more labour in the past ; no question had been burdened with such an overwhelming amount of literature, or so completely revolutionised by the new light thrown upon it with the advance and progress of abdominal surgery in recent years. It was, therefore, of the greatest practical advantage to bring a subject of that kind, from time to time, before the notice of the Society, so that Fellows might have an opportunity of discussing it, and of hearing the opinions of those who were able to speak from personal experience on the matter. Far more could be gained by listening to such a discussion than by recourse to text-books, which at their very best conveyed but the opinions of the author, and invariably contained a large amount of obsolete and out of date material. A student of ten years ago would find that he had much more to unlearn than to learn on the subject of backward displacement of the uterus. He would call on Dr. Macnaughton-Jones to read a paper on "Retroversion of the Uterus."

RETROVERSION OF THE UTERUS: ITS ETIOLOGY, CLINICAL
AND PATHOLOGICAL CONSEQUENCES, THEIR PREVEN-
TIVE, PALLIATIVE, AND RADICAL TREATMENT.

BY H. MACNAUGHTON-JONES, M.D., M.A.O., M.Ch.

First, let me apologise for my audacity in acceding to the desire of our President that I should open this discussion by reading a paper in the presence of so many distinguished compeers, far more competent to deal with it than I am. In doing so it is necessary to keep in mind certain points which must influence its nature and scope. In the first place, there is the composite character of this Society,

namely, the mixture of those who are frequently, yet often inaccurately, called "specialists" with those who are engaged in the general practice of their profession. "Inaccurately," I say, inasmuch as in these days some of the most eminent of living gynæcologists are general surgeons, and do not devote themselves solely to the practice of gynæcology. The name of the distinguished surgeon which is a household word among gynæcologists in every country in connection with displacement of the uterus, Dr. William Alexander, one of our Fellows, and those of Doyen, Terrier, and a recent President of this Society, are examples that will readily occur, among many others, to your mind.

The second point is the recognition of those facts bearing on the matter before us which have been accepted and established, and which, therefore, it is a clear loss of time to either refer to or debate. In the third place, it is essential, with the limited time at our disposal, to keep clearly, and as concisely as possible, within the lines and limits which narrow the discussion down to the consideration of certain issues on which it is important that the Society should record its view.

Lastly, it is imperative that, in introducing the subject, he who does so should affirm only that which has come within his own sphere of experience and knowledge, eliciting from others their views on matters in which their experience is larger and more precise. Thus we may hope to make the discussion of practical use, and not devoid of interest to those who are not in the strict sense of the term "specialists," yet who are daily brought into contact with the clinical conditions we have to consider. On the other hand, we may add something permanent to the elucidation of certain disputed points which have already been discussed, and on which surgeons are not unanimous in their views or opinions, yet on which it is of extreme moment that a clear decision should be arrived at.

We are to-night dealing with retrodeviation alone, and I will not complicate the subject by any reference to proci-

dentia or prolapse, which has been so recently dealt with, both by the late President of the Society and Mr. Jessett. Let me briefly enumerate the factors, anatomical and etiological, contributing to the occurrence of retroversion, as also the pathological evidences and consequences of its occurrence, which we may look upon as so universally accepted that it would be waste of time to refer to them in detail.

So many distinguished names are associated with our advance in knowledge in regard to the anatomical and etiological factors at work in the production of uterine displacements generally, that it seems invidious to refer to any in particular. One consistent and persistent labourer in this field must, however, be mentioned in this connection, namely, Professor Schultze, of Jena, recently proposed as Honorary Fellow of this Society, whose work on "The Pathology and Treatment of Displacements of the Uterus" has been translated from the German by the editor of our Journal, and edited by our Past President, Dr. Arthur Macan.¹

And, first, let us understand what we mean by displacement of the uterus, as also by the term "retroversion." Schultze puts this plainly when he says, "Any uterus that is prevented from taking up the position that is normal to it, when the bladder is full or empty, must be looked upon as displaced." And, again, "that any uterus, the axis of which, even when the bladder is empty, makes with and behind the axis of the pelvic inlet a stable angle opening outwards, must be described as retroverted." And when, with this diversion, we have a change in the form of the uterus, marked by a curve in the uterine outline with the

¹ "The Pathology and Treatment of Displacements of the Uterus." By B. S. Schultze, Professor of Gynæcology, &c., in Jena. Translated from the German by Jameson J. Macan, M.A., M.R.C.S., &c., and edited by Arthur V. Macan, M.B., M.Ch., Ex-Master of the Rotunda Hospital, Dublin. 1888.

concavity posteriorly, the state is regarded as a backward displacement with retroflexion. Retroversion, however, as we know, may occur with an ante flexion, as anteversion occurs with a retroflexion. Such flexions we may regard as either physiological or pathological. The former, as Schultze well insists, are but the temporary consequences of pressure exerted on the normal flexible tissues of the uterus; the latter are permanent, and due to inflammatory processes, or congenital and infantile conditions, whether arising intrinsically in the tissues of the uterus, or exerting their influence from without, through abnormalities in the uterine supports, or inflammatory conditions causing adhesions, contractions, and so forth. Thus we clearly distinguish between the terms "retroposition" or "retro-deviation," and "retroversion with flexion," the former being such altered position, with possible alteration of form, as may occur as the consequence of pressure exerted temporarily on certain points in the axis of movement of the uterus. This, then, is the sole condition that we to-night are considering, and in doing so we have simply to keep in our mind a movable line or axis lying at an angle to the conjugate diameters of the inlet and cavity of the pelvis, determined by, and varying according to, the degree of distension of the bladder in front, or the lower portion of the rectum posteriorly, influenced also by the movements of respiration and pressure from above of the abdominal muscles and the intestines. It may help us also if we imagine the uterus as a lever, the longer arm of which is above, and the fulcrum at the utero-vesical bond of connection. Should the bladder be empty the plane of this axis will lie almost horizontally between the coccyx and the upper border of the pubes, retreating upwards in proportion as the bladder is distended until it passes behind the axis of the inlet, becoming thus retroposed, and if coincidentally pressure from behind be exerted through the distended rectum on the cervix, this retroposition becomes more decided, so that the axis of the uterus lies somewhere

between the body of the second sacral vertebra and the centre of the outlet.

We remember that such physiological movements occur about an axis, determined by the attachments of the uterus, situated at the junction of the cervix with the body of the uterus. Obviously the resultant of any forces acting above or below this axis, whether anteriorly or posteriorly, will move in opposite directions, pressure on the cervix behind raising the fundus, and on the fundus posteriorly raising the cervix. So far this is physiological, and given a normal uterus with normal attachments and play of movement, and healthy muscular and ligamentous controlling and supporting structures, the womb can, and does, right itself from temporary displacements consequent upon the varying yet natural conditions under which it is placed in the inevitable round of functions discharged by the surrounding and superimposed organs.

There is little new in all this—it is what I taught students twenty years ago, and is the foundation of the right understanding of all abnormalities in position of the uterus and their consequences. The parts played by the ovarian ligaments, the suspensory ligament of the ovary, the broad and the round ligaments, the utero-sacral and utero-vesical folds, in maintaining the uterus in position, supporting it when subjected to unusual pressure, restraining any exaggerated deviation, and restoring it to the normal by their elasticity, resiliency and muscularity, are well understood.

And together with such movements of the uterus we understand how the position of the ovaries must be correspondingly altered in consequence. Just in proportion as the uterus is retroposed, so there is the tendency for the ovaries to lie out of their normal position. But as Schultze points out, provision against backward gravitation of the ovary is made by the relaxation of the ligamentum ovarii and the suspensory ligament of the ovary. However, as we know clinically, it is not uncommon to find, in cases of retroversion and retroflexion, either one or both ovaries lying in the pouch of Douglas.

Quite recently the part played by the vagina in sustaining the uterus has been fully entered into by Dr. Smyly and Mr. Jessett in the papers they have read on procidentia and prolapse. Again, we need not delay to consider the manner in which abnormalities in these various uterine supports, whether by undue relaxation, loss of tonicity, abnormal positions due to growths, contractions from inflammations and adhesions, or inflammatory exudations with consequent shortening and thickening, convert a temporary reposition or backward flexion into a permanent retroversion or retroflexion. And in this connection we bear in mind the importance of that cellular link in associated movement provided by the cellular tissue between the posterior surface of the bladder and the cervix anteriorly, a link completed behind by the pelvic fascia connecting the cervix with the rectum and sacrum. At the same time we attribute the importance it deserves as a supporting agent to the continuity of structure between the vagina below and the uterus above.

We can, then, readily perceive how retroversion and retroflexion are caused by general atonicity in the abdominal parietes by their redundancy and weight ; by habitual disregard of over-distension of the bladder ; by straining in defæcation, with a corresponding habitual neglect of constipation and an overloaded rectum ; by perimetritic inflammations with consequent exudations or adhesions, leading to contractions, limitations of movements, or ultimate want of muscular tonicity and general relaxation of the uterine supports ; by all the effects and influences produced by the growth of the uterus and relaxation of its supports during pregnancy, the want of normal involution subsequent to labour, with corresponding deficiency in muscular recovery in the periuterine muscular structures and defect in ligamentous elasticity, not to speak of the permanent abnormal weight of the subinvolved uterus with its own set of abnormal, physiological, and pathological consequences. Too much stress cannot be laid on this last source, as I shall

presently point out, of backward displacement. With it we have frequently associated that impairment of vaginal support, one of the great essentials of normal uterine position, which leads to limitation of movement, loss of elasticity and tone, with the effects of increase in uterine weight, all combining to affect, not only the uterus itself, but the other pelvic contents.

Other causes of retroversion are tumours, which may push the uterus backwards, whether of the ovaries, in the broad ligaments, or of the bladder, but here it is a case rather of retroposition of the entire uterus than true retroversion, which, if it be present, is more frequently the result of associated adhesions occurring posterior to the uterus. Differences of opinion have, and do, exist as to the causal relation between retroflexion and ovarian tumour. Schultze's view is rather in the direction of retroflexion favouring the growth of the ovarian tumour, and that generally a backward displacement has existed previous to the occurrence of the ovarian growth. That they are often co-existent conditions is proved.

I have spoken of simple backward displacement, but do not forget that such malposition may, as has been pointed out by Klob, Veit, and Schultze, be attended by a twisting of the uterus to the right or left side, according to the situation of the source of contraction, whether in the broad ligament or a fold of Douglas of either side. Schultze himself divides the anatomical conditions, causing displacement of the fundus backwards, with or without flexion, under five heads :—

- (a) Puerile uterus, with short vagina, or senile atrophy.
- (b) Anterior fixation of the cervix.
- (c) High fixation posteriorly of the cervix, with shortening of one of the folds of Douglas.
- (d) Shrinking of the posterior, or lengthening of the anterior, uterine wall.
- (e) Relaxation of the uterine attachments, this including more especially the folds of Douglas and the round ligaments.

We have, in this very brief category, a summary of the principal extrauterine sources of retroversion. Connected with any of these we may have pathological conditions in the uterus itself, which contribute to the displacement and complicate it. These may be initial factors in its production. Foremost among them is metritis, especially that form which is the result of puerperal processes, leading to hyperplastic interstitial states, and which has so frequently in its wake chronic endometritis. Metritis, however, is important as a causative factor, from the frequent accompaniment of perimetritis and cellulitis. Tumours also, whether subperitoneal or intramural, may take their share in the production of a displacement or flexion. This is more likely to occur when the broad ligaments are encroached upon and the normal position of the adnexa is altered, or when the tumour, by its direction of growth, carries the uterus backwards. Given a retro-placed uterus, an intramural myoma, according to its position, will favour a flexion, which, especially if there be no relaxation of the folds of Douglas, will become a retroflexion.

Apart from all such acquired causes of this condition, there are those congenital forms with or without other anomalies, either in the uterus itself, such as elongation of the cervix, undue proportion in the length of the anterior wall, at times associated with vaginal anomalies or other departures from the normal in the genitalia. Slight congenital flexions rarely in themselves give rise to more serious troubles than dysmenorrhœa and sterility. I have already touched on the displacement of the ovary accompanying that of the uterus, and experience proves how frequently backward prolapse of an ovary accompanies a retroversion, and further, that inflammatory states of the adnexa, tubal and ovarian, are constantly met with as complications. This, of course, is usually the sequence of metritic and perimetritic inflammation, and has, as the most unfortunate attendant, adnexal adhesions and peritoneal contractions.

Instinctively, with such an etiological and pathological

summary before us, we divide clinically backward displacements into those in which the uterus is reducible and movable, with or without complications, and those in which the uterus is adherent and irreducible, and where adnexal complications, not necessarily but generally, are co-existent. And such clinical division, if it be somewhat general and wanting in accurate differentiation of causes, has its special practical value in its bearing on treatment in regard to those cases which do, and those which do not, demand operative interference.

I take for granted that for purposes of diagnosis, as well as for manipulative treatment, the dorsal position and the combined method is now adopted by everyone who desires to thoroughly examine the pelvis and to manipulate the uterus and adnexa. In some cases the knee-breast position has its advantages, and is one which I frequently avail of in reducing a retroversion. An anæsthetic also is, in a great number of cases, an absolute necessity. Add to these the securing of an empty rectum and bladder and a thorough reliance on one's fingers, and the proper use of both hands, whether abdomino-vaginal, recto-vaginal, or recto-abdominal, and a sound is only exceptionally necessary either for diagnosis or for purposes of reposition. The semi-prone position of Sims' is, however, often sufficient for our object. The modes of manipulation are surely not necessary for me to go into in detail. Complete narcosis, with the precautions I have just mentioned, enables Schultze's method of separation of adhesions, and the freeing of the reducible and movable ovaries, to be carried out with safety, though after all such manipulations the patient should receive the greatest care.

"Ovarian adhesions and parametritic cicatrices do not," says Schultze, "admit of forcible correction."

It is many years since, in a paper I read at this Society, I pointed out both the value and danger of massage in the treatment of diseases of the internal genitalia. Skilful massage, properly conducted, either through the rectum or

vagina, in the dorsal or knee-elbow position, is undoubtedly of the greatest value, combined with other local treatment. It is equally dangerous if casually ordered or unskilfully applied.

It was my intention to have made an analysis of a large number of gynæcological cases, showing the proportion that suffered from retro-displacements, as also the symptoms of which the latter complained, necessitating their seeking advice. However, I gave up the idea, as I did not think that any practical result would follow from such an analysis. We all know that it may be said of backward displacement and its complications that it is one of the commonest causes, not only of interruption of a woman's health and enjoyment of life, but a forerunner and attendant upon conditions and symptoms which tend to make that life a misery. Few, I think, will dispute this proposition. And as to the troubles, whether intrapelvic and local, arising mechanically and directly from interference with the functions of the pelvic viscera and their nervous supplies, or the various visceral and psychic neuroses which we so frequently meet with in displacements of the womb, the consequence of reflected irritation or excitation of the pelvic nerves, they are legion, and have their origin directly or indirectly as reflected neuroses associated with vascular and nervous disturbances in the organs which are affected. This also is a proposition which could be easily demonstrated. Some there are who would make light of the sufferings and the consequences which follow in the wake of true displacements. This is not my experience, and from every point of view I refuse to regard a woman as healthy who has a retroverted uterus. Psychologists have proved, side by side with gynæcologists, the correlation there exists between displacement and certain mental states, which have completely disappeared with rectification of the error of position, and alienists now universally acknowledge the practical importance of its treatment in the insane.

The title of this discussion embraces the prophylaxis of

backward displacement. Any reference to such anticipatory and preventive measures must necessarily be a very condensed and concise one. We will take them somewhat in the order in which I have referred to the causes of the condition. First in importance is attention to distention and over-distension of the bladder. Women, for various and obvious reasons, are apt to neglect such distension, and to habituate themselves to its occurrence, resisting the natural demand for relief more than men. Within the last few days a patient of mine just recovering from fixation of the uterus boasted that whereas before the operation she had to pass water several times a day, she could now pass the entire day without discomfort. Only immediately before another patient made almost the same remark under similar circumstances.

It goes for the saying that the most important caution that can be given to a woman who has to wear a support is to empty the bladder at regular intervals. It were well that a like caution were given to all women after a recent labour. Certainly it may be asserted, considering the great importance of the matter, that women generally are not made sufficiently alive to the dangerous consequences which follow over distension. Constipation and costive bowels are only of secondary importance to the bladder. To prevent rectal overloading, to maintain the tone of the sphincters, to cure hæmorrhoidal conditions, to prevent straining in defæcation, are our principal indications. I do not here speak of affections of either bowel or bladder that may demand special interference for their cure.

Attention to the uterus after labour, especially during the first and second months, has certainly not been given as it ought to have been. Considering that by far the largest portion of cases of backward displacement are due to post-partum effects, this must be acknowledged. Fleischlen, of Berlin, in a recent address¹ (for the trans-

¹ *Zeits. f. Chirurgie*, Bd. lviii. Heft 3 and 4 v. Summary.

lation of which I am indebted to our Editor) says : "There is no doubt that many apparently puerperal cases are relapses into anomalous positions that existed during virginity." He likewise insists on the importance of treatment after childbed, and that if there be, notwithstanding reposition, recurrent retroflexion, a pessary should be worn for six months.¹ Nicholson,² of Pennsylvania, in a recent article quotes Rissmann upon the cure and prevention of displacements in the puerperium. Rissmann cites Ahlfeld and Fritsch, that we should ascertain the position of the uterus at the end of the first week, and if it be required, that a pessary should be inserted, and he instances cases in which cure of the retroversion followed this treatment, while the patients were kept as much as possible on the side. Many other authorities are in favour of the introduction of a support at the end of a third week, and Rissmann lays special stress on the lateral position with the occasional assumption of the prone position. Whatever view we may hold with regard to these suggestions, I think it is undoubted that the time has arrived for the recognition of the great importance of attention to the position of the uterus during the puerperal month, attention to the involution of the uterus by means taken to secure it, and thorough rectification of any perineal deficiencies. "Indeed," says Fleischlen, "the chief contingent of all mobile retroflexions are those puerperal ones which are not submitted to medical advice for months, or even years, after their origin." Neither can I enter into the consequences of retroversion on the gravid uterus, its effects in abortion and incarceration. When detected, early reposition and the use of a pessary is the obvious course to pursue. Doubtless auto-reposition, with the advance of pregnancy, does happen,

¹ Rissmann, *Münch. med. Wochen.*, March 6, 1900.

² Paper by W. R. Nicholson, M.D., "Digest of Recent Literature, with a Special Reference to Uterine Displacements." *Universal Medical Magazine*, Pennsylvania, February, 1901.

but it is not well to rely on it, and reposition under narcosis, properly conducted, should be carried out.

We hear a great deal said of tight-lacing, even to the influence it exerts in predisposing to myoma of the uterus, and I have myself taken part in a literary crusade against tight corsets. But I fear we have to admit that retroversion of the uterus is in no way peculiar to the perambulating hourglass shapes that women so delight to assume in order to attract the admiration of the robuster sex. However, a tight corset, speaking medically as well as æsthetically, is an *anathema maranatha*, and we need not here waste valuable time in referring to it.

Only one other group of cases will I allude to in this matter of prophylaxis, viz., pelvic inflammations, whether seriously involving the adnexa or not, leaving in their wake plastic exudations and peritoneal contractions. Seeing the consequences during and after convalescence of such inflammatory processes, I think we may admit that we are too apt to rest content with their immediate control and the recovery of the patient, without the needful rectification of the sequelæ of the attack. Such means as warm douchings, massage of rectum and vagina, more prolonged rest, avoiding the dorsal position, the use of a suitable soft support and the administration of such drugs as are calculated to promote absorption of the effused products, and finally cold lavements, are some of the means which we may adopt. It is in such cases, when complicated with retroflexion, that the treatment associated with the name of Schultze, which I need not describe, is of such value. I certainly have frequently found great benefit in the absorption of pelvic effusions, adnexal thickenings with enlargement of the uterus, from a course at Woodhall Spa, which I prefer to Kreuznach from its nearness of access and for climatic reasons, but you can perhaps, measure better than I the degree of expectant delusion with which some patients are buoyed up by the hypothetical virtues of certain waters and spas.

We now approach the actual treatment of a retroverted or retroflexed uterus which is movable and reducible. You quite understand how condensed and brief must be my handling of the entire subject of treatment. And I think I shall best achieve my object by making a few plain propositions which represent practically what my views personally are.

(1) Attention to the different clinical points I have referred to in the anticipation of this displacement would render it of much less frequent occurrence than it is at present. The wider recognition of the causes leading to its earlier rectification when it is threatening or has happened, would effect more rapid and permanent cure.

(2) Every mobile and reducible uterus should be treated in the first instance by a support, which should be worn for a space of time proportionate to the tendency there is on the part of the uterus to revert to the backward position. Associated adnexal conditions are frequently amenable to treatment in such cases, and it should follow the reposition of the uterus.

(3) Should the adnexal condition be such as to demand operation colpotomy is that of selection, with resection of the adnexa and the subsequent use of a support.

(4) An immovable or irreducible uterus, or a reducible uterus in which the associated conditions, either in the uterus itself, in contracting peritoneal folds, or in adnexal adhesions, make it clear that no pessary will effect a cure or enable the uterus even temporarily to remain in the normal position, should be treated by operation, the nature of which should depend on the age and child-bearing prospects of the woman; on the amount of adnexal disease and the need there may be for radical interference; on the condition of the vaginal outlet and perineum; such complications as cystocele or rectocele, and lastly, on the extent of uterine disease that is co-existent with the displacement.

With regard to a pessary, I will dismiss what I have to say in a few sentences. A pessary should always be

moulded to fit the particular anatomical peculiarities of the case in which it is applied. Here I show the shapes I generally prefer, and the celluloid with wire rings, from which they are quickly moulded out of hot water. They are but various adaptations of the Smith-Hodge, and generally answer the purpose. Here is a new celluloid cushion pessary, made for me by Messrs. Arnold. The soft Smith-Hodge pessary of Robert Barnes, with a glycerine pad behind, is also a most useful one. I know of no pessary that keeps the uterus in position after its first replacement more efficiently than, if as perfectly as, the vulcanite Fowler. In some cases of retroversion with ante flexion, or with the anterior wall enlarged from any cause, a well-curved Galabin's support is most useful. For final wear, after the uterus has been maintained for a given time in position, the glycerine ring is admirable. A well fitting pessary should neither be immovable in the vagina nor loose enough to change its position under the ordinary demands of the patient's life. It should not interfere with the rectum or bladder, nor should it press on the urethra. It should be comfortable both in walking and when the patient is sitting. It should be of a material easily kept clean, should not be worn when roughened on the surface or corroded, should have no apertures or cracks, and be capable of being removed, and, where possible, inserted by the patient herself.

Let me, then, express my opinion that a very large proportion of cases of retroflexion can be treated and cured by the aid of a pessary (I have altogether abandoned the use of stems), that a smaller number, assuming that the patient may have opportunity and time to avail of treatment, can be cured not only of the displacement, but of its complications, in the same manner. There then remains a proportion of cases which we may divide into two classes. The first embraces those in which the mere replacement of the womb is only part of the cure, and who cannot afford the time for the necessary manipulative or other treatment needed to

perfect it. The second includes all cases in which, either from the nature of the displacement or its complications, we cannot hope for a satisfactory result from any mechanical, manipulative, or other non-operative treatment. In both these classes operation is indicated.

I admit at once that by prolonged and persevering treatment by local absorbents, massage, the assistance of posture, curettage and pessary, I have frequently treated and completely cured cases that at first appeared almost incurable; and I know of many patients who thus suffered who are now strong and healthy women, and have borne children.

But recalling the numbers in whom there was no such satisfactory issue, the time, the suffering and inconvenience involved in the process, I should not now submit them to the same treatment, but should advise operation.

It has only been of recent years that I have come to the decided views I have expressed with regard to operation. This, however, may be readily accounted for by the fact that my practice was, during the earlier years when operative interference was advocated, limited to those who could afford a prolonged period of treatment, and the uncertainty of the published results made me chary in advising operation; I have, however, during late years, acting on the principles I have stated, advised operative measures in certain cases, and where consent has been given have carried them out. So far as I know, in every instance up to the present the result has been satisfactory, and in none has any ill consequence followed.

These operations, with the exception of one of Alexander's (in which case I afterwards performed suspension of the uterus) and one vaginal fixation, both of which patients have since borne children, have been all by ventrofixation or suspension (Kelly), the uterus being fixed either to the abdominal parietes, that is, fascia and peritoneum, or to the peritoneum and subperitoneal fascia alone. In some cases either resection or removal of an ovary or ovaries has been carried out at the same time.

Among the most valuable papers on the subject of operation published within the last few years, are those of Goldspohn¹ (Chicago) and Delagénère² (Le Mans), read at the International Congress of Gynæcology and Obstetrics at Amsterdam, 1899, and another communication by the former author, June, 1900³; Cohn's paper, read before the Munich Congress in 1897; a paper by J. Veit in June, 1900⁴; and those already referred to of Rissmann and Fleischlen.

To enter into details of the various operative procedures, in no matter how brief a manner, is obviously impossible. I must content myself with a rather imperfect classification, based on the broad principles on which each operation is devised. The first are those operations in which the round ligament is fixed, as by the original Alexander method, to the external abdominal ring, or the aponeurosis of the external oblique muscles, and the various modifications of this operation, some of which mainly consist in further interference with the inguinal canal, either partially or for its entire length, and in variations in the mode of fixation of the round ligament, whether into the processus vaginalis peritonei (Küstner), or still further, as in the operation proposed by Goldspohn, in which the round ligament is traced to its place in the broad ligament, and the internal inguinal ring stretched and dilated is utilised for abdominal explorations and manipulations, or, if necessary,

¹ Goldspohn, *Amer. Gyn. and Obstet. Journ.*, June, 1900.

² "Du raccourcissement des ligaments larges et des ligaments ronds dans la rétroversion de l'utérus." Dr. Henri Delagénère, *Comptes Rendus du Congrès Internationale de Gynæcologie et d'Obstétrique*, Amsterdam, 1900.

³ "Indications, Technique, and Results of an Improved Alexander Operation in Aseptic, Adherent Retroversions of the Uterus, when Combined with Inguinal Cœliotomy, *via* Dilated Internal Inguinal Ring." By A. Goldspohn, M.D., Professor of Gynæcology, Chicago, Post Grad. Med. School, Gynæcologist to the German and Charity Hospitals, Chicago.

⁴ J. Veit, *Berliner klin. Wochen.*, June 11, 1900.

removal of diseased structures. Or, again, there is the operation as practised by Delagénère and several others, in which the round ligaments are reached by an abdominal incision, when they are folded upon themselves, and fixed to the line of Poupart's ligament or to the aponeurosis and walls of the canal. Finally, by purse-string sutures, the round ligament, the peritoneum, and inguinal ring are united, the entire structures, consisting of the round ligament with the internal ring and the surrounding muscular structures of the internal oblique and transversalis muscles, being anchored to Poupart's ligament, while Edenbohl's also opens up the inguinal canal for its entire length, and having shortened the ligaments, anchors the various structures round the internal ring to Poupart's ligament, including in the attachment the external ring and the external oblique aponeurosis. The Landaus, I believe, fix the broad ligaments, not the uterus, to the peritoneum and subperitoneal fascia, reserving any fixation of the uterus for after the child-bearing period of life.

All these operations, and others of a similar nature, agree in the principle that the uterus shall be held in position by the round ligaments alone, or with the structures with which they are connected in the inguinal canal, and that the point of attachment or suspension be either to the external abdominal ring and aponeurosis or Poupart's ligament.

In the second class of operations the uterus itself is fixed either extraperitoneally to the vagina, as in the operation of Müller and Dührssen, or by intraperitoneal vaginal fixation, as I have so frequently seen it perfectly and rapidly performed by Auguste Martin. In the third class we include those operations of fixing the uterus to the abdominal wall, either by the direct mesial-fixation methods of Leopold, Czerny, Pozzi, and others, or the lateral fixations of Olshausen and Sänger, or in the suspension method of Howard Kelly, by which the uterus is fixed to the peritoneum and subperitoneal fascia.

I do not refer to the operation of Mackenrodt, in which the uterus is attached to the posterior surface of the bladder, as it is one which has been generally condemned.

Practically, then, we come to the operation of Alexander, or the Alexander-Adams,¹ with the various modifications, extraperitoneal and intraperitoneal; ventrofixation; suspension of the uterus by Kelly's method, and vaginofixation. For my own part, operating only in cases in which there are such complications or conditions as absolutely demand interference, I have adopted either ventrofixation or suspension of the uterus, as I feel that coeliotomy affords the best and safest means of correcting the majority of adnexal complications should they exist, while experience does not appear to have shown, from statistics of the results, that there is any greater danger to pregnancy than by any other methods. However, given a simple case of mobile and reducible uterus, there can be no doubt, from the mass of evidence before the profession, that the Alexander, or the Alexander-Adams operation, is on all grounds the classical method of dealing with the condition.² The mortality of either uncomplicated operation is practically *nil*.

¹ Quoting from Cohn Nicholson says: "It is interesting to note that the operation of shortening the round ligaments was first performed by Alquié, in the year 1840, in order to support a prolapse, and by Aran, who treated a retro-displaced organ in this way. France, however, was not the country in which the merit of the operation was first established, since the procedure was allowed to lapse until many years later, and was then re-introduced elsewhere. In Germany Langenbeck and Freund were the first advocates, but to Alexander and Adams the real credit belongs. Cohn, from the results of the Breslau Clinic, regards the Alexander-Adams as the best form of operation during the period of possible conception. (*Vide* Nicholson's paper already quoted.) *Zeits. f. Geburt. u. Gynæ.*, xliii. Band, 3 Heft.

² Fleischlen says of the Alexander-Adams operation: "Free from danger and effective, it secures a position for the uterus as nearly as possible normal. The fundus is free, and there is no interference with labour." He himself fastens each ligament with silkworm gut to the lateral angle of the wound in the aponeurosis, and by a row of sutures to the inner side of the aponeurosis, after shortening the ligament from eight to ten centimetres.

I cannot close without venturing to state that every Fellow of our Society recognises the value of the inspiration which first suggested to my distinguished fellow-countryman the idea of correcting backward displacements by his operation of shortening the round ligaments—an inspiration which for all time must link his name with the operative treatment of this condition.¹

Dr. W. ALEXANDER, in opening the discussion on the above paper, had again and again proved that backward displacements gave rise to pain, backache, a feeling of weight, dragging, difficulty in walking, constipation, signs of obstruction, dysuria, frequent micturition, miscarriage, sterility, dysmenorrhœa, menorrhagia, metrorrhagia, leucorrhœa, and nervous symptoms varying according to the stage of the disease. Symptoms which were prominent when the displacement was recent and acute, became less and less as the disease became more chronic, and finally disappeared altogether. It was upon an examination made at this latter stage that some gynæcologists founded the statement that retroversion produced no

¹ B. Kronig and Feuchtwänger (*Monats. f. Gyn.*, xi., 621, 795) says: "In uncomplicated retroflexion, as well as in descent of the mobile uterus, the Alexander-Adams operation has, for the last three years, been the operation of choice."

Carl Petera, of Dresden (writing in the *Münch. med. Woch.*, S. 1163, April, 1900, of the Alexander-Adams operation in mobile retroflexion), says: "The operation, which is everywhere becoming more firmly established, has not as yet been cordially accepted in Dresden as the apt, innocent, and ingeniously-contrived method it really is." Referring to Alquié as the promulgator of the idea of traction of the round ligaments in replacing a prolapsed uterus, he says: "But Alexander, of Liverpool, and Adams, of Glasgow, were the first, in 1881 and 1882, to describe the technique of the new operation." Peters is a warm advocate of the Alexander method in the cases referred to, and he quotes Futh, Lapthorne Smith, and Rumpf as advocates of the method, besides those authors I have already referred to in my paper, as operating by the inguinal canal. Peters meets all the objections to an Adams operation in his paper. He reviews the whole history of the operation from the eighties to the present day. The entire paper is an able defence of the operation performed in suitable cases.

symptoms. What would be thought of a surgeon who, finding an old mobile dislocation of the shoulder, held that a recent dislocation gave rise to no symptoms? Yet the cases were parallel. The pathological consequences of retroversion of the uterus, chiefly the result of circulatory disturbances, were congestion of the uterus, ovaries and tubes, enlargements of the fundus uteri, or of the entire uterus, attacks of perimetritis, parametritis, adhesions, salpingitis, erosions of the cervix, change in the metrium, hæmorrhoids, &c.

Treatment.—The preventive treatment consisted in the avoidance of strain, severe exercise, or hard work at the menstrual period, examination and replacement of the uterus when the symptoms first showed themselves, either after a strain, miscarriage, confinement, or menstruation; the cure of any inflammation in the pelvis that might conduce to displacement, and temporary support by pessaries, &c. Attention to the bowels and bladder were general preventive measures that would suggest themselves to everyone. By palliative treatment the symptoms of backward displacement might be entirely relieved, but often the necessary time, care and skill were unavailable, and operative treatment was necessary to restore the uterus to its normal position. The only radical treatment of a chronic backward displacement was by operation, and the only operation he performed was shortening of the round ligaments. The round ligament might be shortened in two classes of cases. First, where the uterus was free; and second, where it was adherent. Where the uterus was free the operation was, to his mind, a very simple and efficient one, provided that the uterus was placed in a position of anteversion. If so placed the result would be permanent. If the uterus sloped back, ever so little, it would prove a failure, and he thought this was the source of failure in a good many cases in which it had been performed. The second class of cases was where there were adhesions. In these cases, which were not very

numerous—in his practice he had only met with six during the last two years—he opened Douglas' pouch, passed in his finger, and broke down adhesions, until the uterus could be pushed forward easily into anteversion. He then packed the vagina with gauze and shortened the round ligaments. If any lesion were found in the pelvis it could be removed by the vaginal opening. The operations were always completed at one sitting. The operation of shortening the round ligaments sufficed for the operative treatment of all cases of backward displacement. As regarded ventrofixation and vagino-fixation he had never performed either. Both operations seemed unphysiological, whereas shortening the round ligaments was physiological, and its after consequences had been proved not to interfere generally in any way with the course of nature.

Prof. J. W. TAYLOR said that it was the more or less recent or intractable cases, in which the uterus was enlarged as well as displaced, which mainly required treatment, and the enlargement as well as the displacement should be dealt with.

Treatment by pessary was rarely, if ever, curative, and its continued or permanent use was highly objectionable. On the other hand, the temporary use of a pessary, which kept the uterus in place, not only relieved urgent symptoms, but enabled the surgeon to estimate how far distress was due to displacement.

Of operative procedures he had repeatedly tried : (1) The English operation of shortening the round ligaments due to the genius of a distinguished Fellow of the Society, Dr. Alexander, of Liverpool. (2) The older operation of ventrofixation. (3) Ventrofixation as modified by Kelly. (4) Vagino-fixation :—(a) with fibro-serous union ; (b) with sero-serous union. (5) The operation of Doyen, in which, after anterior colpotomy, the anterior wall of the uterus is sewn on itself so as to produce a kind of antelexion.

Vagino-fixation had generally been simply incidental to anterior vaginal cœliotomy, and ventrofixation accessory to other operations involving abdominal section.

After the older operation of ventrofixation, the uterus, though elevated, lay too much in the vaginal axis, and was rather curiously constrained, though in a decreasing degree as the area of union lengthened into a band. Patients rarely obtained perfect relief, and the sense of security experienced when the uterus lay in full normal anteversion.

Whenever he had employed Kelly's method as an accessory to other abdominal operations he had been very pleased with the results, and it appeared to be as free from defect as any purely fixation operation could be.

In vaginofixation the relation of the uterus to the vagina was both good and safe, if, however, the uterus were at all large it usually occupied a cramped and somewhat flexed position. If the union were sero-serous it was liable to give way, and if fibro-serous there was undoubted danger to subsequent pregnancy. He quoted one case in which Cæsarean section had to be done, and another in which prolonged suppuration resulted in such firm adhesions that when subsequent removal of the uterus was performed the uterine tissue tore before the adhesions gave way. The operation was useful as one process of an operative "suite," when it was desired at one sitting to curette the uterus, fix it in position, perform posterior colporrhaphy for rectocele, and repair the perineum; but it was better reserved for patients who were in little or no danger of becoming pregnant.

Doyen's operation he had found insufficient, and Doyen himself now combined it with shortening of the round ligaments.

Shortening of the round ligaments, or Alexander's operation was, he believed, the best for uncomplicated backward displacement. The troubles which he formerly experienced had entirely disappeared with stricter asepsis and the use of fine "ophthalmic" silk as a buried suture to entirely close the wound in the external oblique, and to sew the upper end of the ligament to the under surface of the aponeurosis. He had watched pregnancy come and go

afterwards without any difficulty or recurrence of the displacement. Performed as he described in well selected cases, the results were perfect, and few operations gave patient and operator more unalloyed and permanent satisfaction.

Dr. C. H. F. ROUTH had been deterred from trying Alexander's operation by the opinion which a distinguished gynaecologist had expressed concerning it when it was first introduced. He questioned whether the anterior and posterior ligaments really contributed to the support of the uterus to such an extent as was generally supposed. By attaching weights to the uterus of a dead subject, and then cutting, one by one, the structures which were generally credited with supporting it, Savage had demonstrated that all its fascial connections assisted in retaining it in its place. The speaker himself believed that the ligaments, extending laterally from the cervix to the pelvic wall, gave the organ the greatest support. There were many cases of retroflexion which would only yield to treatment which included the use of a stem pessary. If he found an uterus retroflexed, enlarged, and bound down by adhesions, he subjected the patient to prolonged treatment by mercurial or other drugs to promote absorption, and having reduced the size of the uterus he inserted an intrauterine stem and shield, or a stem and a Hodge's pessary. Hæmorrhage, regarded by some as a disadvantage attending the use of the stem, he considered beneficial inasmuch as it reduced uterine congestion. In the treatment of dysmenorrhœa the relief following dilatation was frequently temporary, and in order to render relief permanent a stem must be employed. The use of antiseptics should, however, invariably precede, attend, and follow its introduction.

Mr. F. BOWREMAN JESSETT remarked that the Society were much indebted to Dr. Macnaughton-Jones for his able and exhaustive paper. The remarks of Dr. Alexander, coming from the originator of the well-known operation, should be received with the respect they deserved. Little had been said respecting diagnosis, which was not always

easy. He had seen several cases where a fibroid in Douglas' pouch had been mistaken for the fundus of a retroflexed uterus, and had even known a cyst in the broad ligament similarly mistaken. Again it was not always easy to say whether the uterus were bound down by adhesions or not. If there were the least doubt he insisted upon the administration of an anæsthetic. When the muscles became relaxed an uterus, which had previously appeared absolutely fixed, could frequently be readily replaced in its natural position.

Respecting the causes of retroversion, the habit of not relieving the bladder greatly tended to produce backward displacement, as did also habitual constipation and the straining it necessitated.

With regard to treatment, many patients could be both relieved and cured by the introduction of a perfectly fitting pessary. He preferred a pessary of the shape of Hodge's, with a large glycerine pad at the upper end for the first two or three months. A Hodge or Hodge-Smith would then frequently answer every purpose. Stem pessaries were of much service, if introduced, and the patient kept in the recumbent posture for a week, but he never allowed a patient to go about with one *in situ*. He remembered a case in which disastrous results followed such a procedure. Dr. Alexander appeared, in a very large proportion of cases, to have combined his operation of shortening the round ligaments with the use of a Hodge pessary and the introduction of a stem for the first week, and he could not help thinking that to this latter treatment the greater part of the good results obtained might be attributable. His experience of Alexander's operation was small and not very happy, but in simple cases in which the uterus was freely mobile he could quite understand that the operation alone would give excellent results. If the fundus were bound down he considered it better to perform cœliotomy than open the pouch of Douglas, as by the former method a good view of the pelvic floor, the adnexa, and any exist-

ing adhesions was obtained, and it was easy at the same time to fix the uterus to the parietes. He, personally, in all cases in which operation was necessary preferred ventrofixation to any other operation, and he insisted upon the necessity of fixing the posterior part of the fundus to the parietes, so as to replace the uterus in as nearly as possible its natural position.

Dr. GEORGE ELDER agreed with Dr. Alexander that the chief causes were undue exercise at the menstrual periods in unmarried woman, badly attended miscarriages and labours, and the prophylaxis ought to be directed towards the prevention of these. With regard to the treatment in unmarried girls, in most cases the placing of a properly fitting Hodge pessary, a tonic being administered, if necessary, and general instructions being given, was sufficient. If a large retroflexed or retroverted uterus were found directly after labour or miscarriage, the treatment required was rest, hot douches, glycerine and ichthyol pads, attention to the bowels and potassium bromide to bring about involution of the uterine walls. When the acute stage had passed, and one had still to deal with a large heavy uterus, probably complicated by endometritis, he thought a healthy condition of the endometrium should be secured, and if, as was usually found in these cases, there was some rupture of the perineum, this should be repaired before applying the pessary. He agreed in advocating the use in certain cases of retroflexion of the intra-uterine stem, the particular one he had himself used, now and again, being Wright's old-fashioned metallic instrument, which, of course, was rendered aseptic before being inserted. The patient had to rest for three or four weeks after it was placed in position. Then if no symptoms arose she could get up, taking care to keep quiet during the menstrual period. Two months was the longest time he had permitted one to remain *in situ*. With due precautions he had never found any bad effects attend its use. It had, combined with the use of a Hodge pessary,

produced beneficial results, which could not have been attained simply by the use of the latter. A stem often assisted drainage, relieved congestion, and forwarded the cure. There were certain cases in which no pessary was suitable, in which the tubes were adherent, or in which there were large, prolapsed and inflamed ovaries, in which a pessary of any description could not be borne. He had abandoned Alexander's operation on account of the difficulty experienced in finding the round ligaments; that which he now performed was abdominal ventrofixation, namely, fixing by buried sutures the round ligament on both sides to the subperitoneal fascia. In his hands there had been no mortality from it.

Professor SINCLAIR did not think it was a justifiable proceeding to leave the uterine stem in more than a fraction of a week. He remembered a hospital patient, who had been made an out-patient without his knowledge, and who had disappeared for six months, and had worn an intrauterine stem all that time. She suffered no great harm, but had ever afterwards oligo-menorrhœa. He had since, purposely, and with success, used an intrauterine stem to stop that continuous slight hæmorrhage which was caused by certain diseases of the uterus and internal sexual organs in unmarried women. With regard to the causes of retroflexion in unmarried women, typical cases occurred in schoolmistresses in elementary schools and in shop assistants, arising not from exercise but from want of it; there was nothing so ruinous to the sexual organs as standing. Cases in which there was retroflexion of the uterus without complications were those suitable, in his judgment, for the operation of shortening the round ligaments, that is cases which could, with perseverance, be cured without operation. In old-standing cases of retroflexion, obviously such from the condition of the uterus, and which were not curable without operation, the only safe procedure was ventrofixation, which, in his opinion, gave the nearest approach to a physiological result. Essential

points, when performing it on a woman likely to become pregnant, were to safeguard the fundus uteri, taking care it was not involved in the stitches, and to preserve the physiological play of the round ligaments. He disapproved of any operation by which these structures were interfered with.

Mr. W. D. SPANTON pointed out that retroversion differed largely from retroflexion. Retroversion was met with in women with a heavy uterus, mostly in those who had borne children. Retroflexion was found in those who had had no children, often in virgins, and generally was due to stenosis, in which case cure was hardly ever effected without dilatation and the use of some stem to keep open the canal. In other classes of cases one had to pay attention to mechanical treatment in the way described by Dr. Macnaughton-Jones, namely, by supports, while relieving as far as possible the excessive weight of the uterus itself. No reference had yet been made to the marked influence which restoration of the vaginal canal to its normal condition produced upon retroflexion in some cases. As long as there was a loose open vagina in which the uterus could, as it were, wobble, no progress could be made. He had never seen any danger result from the use of stems if they were used in a proper surgical manner. In the case of a small retroflexed uterus he had found it useful to substitute for a fulcrum support a very small cushion ring to exactly fit the cervix, so that the uterus should be, as it were, balanced upon it. In other words, it would prevent wobbling. With regard to Alexander's operation he had not found it so easy as the author had done, but he entirely believed in its efficacy when properly carried out.

On the motion of Dr. HEYWOOD SMITH the discussion was adjourned.

BRITISH GYNÆCOLOGICAL SOCIETY.**THURSDAY, MAY 9, 1901.****J. A. MANSELL-MOULLIN, M.A., M.R.C.P., PRESIDENT, IN THE CHAIR.****ADJOURNED DISCUSSION ON THE CLINICAL AND PATHOLOGICAL CONSEQUENCES OF RETROVERSION OF THE UTERUS, THEIR PREVENTIVE, PALLIATIVE, AND RADICAL TREATMENT.—POSTERIOR VAGINAL CÆLIOTOMY IN OPERATIONS FOR PELVIC DISEASE.**

Dr. HEYWOOD SMITH, in continuing the discussion on Dr. Macnaughton-Jones's paper on the "Clinical and Pathological Consequences of Retroversion of the Uterus, their Preventive, Palliative, and Radical Treatment," said that he thought that metritis and parametritis were more frequently the effect than the cause of misplacement. It was curious that five out of seven speakers had advocated the use of the stem. The dangers of the sound were sometimes exaggerated. Where there were no adhesions it might be used to replace the uterus, provided it were passed with gentleness, in the exact axis of the organ, and that reposition were assisted by the finger behind the uterus. He objected to the restriction of the word "radical" to cure by operation; by patience and quietness retroversion could be radically cured. Where poverty, however, rendered work essential operative treatment gave the best and quickest relief. He had been the first to perform a deliberate ventrofixation in England.

Dr. J. J. MACAN questioned the propriety of employing the sound for purposes of reposition. Any uterus which could be safely thus replaced could be replaced bimanually

by varying combinations of abdominal, vaginal, and rectal palpation. He asked Dr. W. Alexander whether he personally attached importance to the direction in which the round ligaments were drawn out when performing the Alexander operation ; it was a point upon which considerable stress had been laid in continental literature.

Dr. R. T. SMITH referred to the correctness of Hewitt's observations as to the association of neurotic conditions, and still more of persistent vomiting, with uterine displacement. In debilitated patients there were two conditions which conduced to retroflexions : (1) loss of the normal curvature of the spine, and (2) softness with consequent flexibility of the uterine tissue. Rest and removal of the primary cause were frequently attended by cure of the displacement. Prolapse of the ovaries sometimes resulted from enlargement and displacement of the uterus. If the uterine condition were treated the ovarian trouble disappeared. While approving of Alexander's operation in cases demanding operative treatment, he himself performed ventrofixation.

Dr. H. SNOW asked Dr. Alexander whether he ever experienced any difficulty in detecting the round ligaments. Referring to the use of pessaries he said that as a rule they gave relief rather by rendering the vagina taut than by keeping the uterus in position at any particular angle.

Dr. F. A. PURCELL believed that undue prominence of the promontory of the sacrum contributed to retroflexion. In virgins it was not always possible to satisfactorily insert a pessary.

Dr. P. L. HERBERT said that in the majority of cases the sphincter formed the only obstacle ; yet there were cases in which the vagina was cone-shaped, and in these, whether children had been borne or not, a pessary was with difficulty retained.

Dr. BENJAMIN FIELD said that he had listened with great interest to the discussion ; but it was frequently difficult to obtain admittance for such cases into hospital, yet the only

practical cure for patients in a poor neighbourhood, such as that in which he had practised, was operation. To advise the majority of patients to rest and to use douches was utterly impracticable.

Dr. R. H. HODGSON said that frequent reference had been made to the condition of the bowel. What portion of the bowel had been referred to? He failed to see how retroflexion could be attributable to distension of the rectum.

Dr. ALEXANDER, in reply to questions addressed to him, said that he attached no importance to the direction in which the ligaments were drawn out. The secret of finding them was to cut down upon the external oblique, which was a distinct glistening structure, and then seek the ligament at the external abdominal ring. Except where abnormalities existed they were always to be found, but in about 1 per cent. of cases were too thin or too brittle to pull out. An apparently delicate ligament, however, on being pulled a little way out of the canal, often proved thick and strong. He did not operate upon very old people in whom the ligaments were specially liable to be delicate.

The PRESIDENT would classify backward displacements according to whether they were reducible or irreducible. Etiologically, pathologically, clinically, and as regards treatment they would lend themselves readily to that division. The division into retroversion and retroflexion was devoid of practical value. With regard to preventive treatment, the rules laid down by the various speakers as to the avoidance of strain at the menstrual period, examination and replacement of the womb after miscarriage or labour, and repair of the perineum or cervix if lacerated, would meet with general acceptance. He doubted if the very temporary use of stems sanctioned by those favouring their employment could possibly be of permanent benefit, while the risks attending their use were admitted by all. The discussion had turned to a great extent upon the relative merits of ventrofixation and Alexander's operation. The latter required skill and practice, while the former was

devoid of any special difficulties and therefore evidence in its favour would be forthcoming from many quarters. The fundus was seldom bound down unless the uterine appendages were the seat of chronic inflammatory mischief, and he regarded the position of the uterus as of secondary importance when the primary trouble had been removed.

Dr. MACNAUGHTON-JONES, in replying, said that each time he had referred to the bowel he had specified the overloaded rectum alone as a participating cause of the retroversion. He considered a stem pessary to be both unscientific and dangerous, and the remarks of some of those who advocated its use had only tended to show that it was so. Lawson Tait was quite right in urging the comparatively rare necessity for the employment of the sound, either in diagnosis or as a repositor. As to a pessary, each should be adapted according to the anatomical peculiarities of the parts—the vagina and the uterus. Dr. Macnaughton-Jones also dwelt on the importance of prophylaxis, which prevented the necessity for either pessary or operation. He reminded the Fellows of the propositions which he had made with regard to the differentiation of those cases in which mobility and reducibility indicated either expectant or operative treatment, even when there were associated adnexal conditions. The cases demanding colpotomy without fixation were distinct. The vital questions agitating gynæcologists once an operation had been determined upon, were: (1) which method was most suitable to the mobile and reducible uterus during and after the child-bearing period; (2) which appropriate to retroflexion with adnexal complications and adhesions; and (3) the bearing of the method on child-bearing and the consequences which followed to the parturient woman during labour. Abroad either Alexander's or the Alexander-Adams operation, with its various modifications, extraperitoneal or intraperitoneal, was performed by such well-known gynæcologists as Doléris, Cohn, Küstner, Kronig, Veit, Karl Peters, Delagénère, Bamberger, Stocker, Füh, Rumpf, Kocher, Doyen,

and others ; in America by quite a number of surgeons, including Goldspohn, Edebohls, Mundé, Parker, Newman, and Kellog ; while Lapthorne Smith of Montreal had performed a very large number of operations by this method. Taking the records of 1,141 operations, the particulars of which Dr. Macnaughton-Jones quoted, there had been but two deaths. The plan of looping intraperitoneally the round ligament, as advocated by Delagénière, Mann, Jacobs and many others, or the fixing of the loop into that which tied off the ovary and tube if these be removed, had not been referred to. Up to the end of 1896 Martin had performed 400 vaginal fixations with only four deaths. Vineberg's operation of vaginal fixation of the broad and round ligaments had not in that operator's hands been followed by any death. Howard Kelly in his utero-suspension had not more than 1 per cent. of failures. Fixation of the broad and round ligaments to the parietal peritoneum was performed by some operators. Reviewing the statistics as published by a number of operators up to the present year it would appear that the choice lay mainly between three procedures, or the modifications of these, the Alexander-Adams operation, ventrofixation, and Kelly's utero-suspension. It was clear that Alexander's operation could not be the simple procedure that some represented it, from the modifications of it which were forced by necessity upon the most expert operators. Finally, the age of the patient, the complications of the displacement, and the operator's views with regard to the influence of the special operative interference on pregnancy and labour were the points that would determine the selection of any operation.

POSTERIOR VAGINAL CÆLIOTOMY IN OPERATIONS FOR PELVIC DISEASE. BY W. M. ALEXANDER, M.D., R.U.I., F.R.C.S.Eng. (Surgeon to the Royal Southern Hospital, Liverpool).

DURING the two years ending March 31, I find I have performed ninety-four posterior vaginal cœliotomies for various diseases of the pelvis, not including hysterectomies

for cancer of the womb, removal of uterine fibroids, or for other diseases where Douglas' pouch was opened as a small part of a more extensive operation. Abscesses pointing into the vagina or sinuses opening into it are also excluded; only those where Douglas' pouch was opened as the route for removal of disease being included.

I am not here as an advocate of the vaginal in preference to the abdominal route. During the same period I have performed 204 abdominal cœliotomies by other routes out of a total of 1,567 operations of all kinds. These figures are mentioned to show that vaginal cœliotomy is not a specially favoured operation of mine, and that I do not try to operate by this route when other methods could be adopted with advantage. In previous years I operated for many of the diseases mentioned below by *abdominal* cœliotomy, but have gradually become very much impressed with the greater ease and the shorter duration of the vaginal operation, its greater safety, and the more comfortable and often more rapid convalescence of the patient.

The following were the diseases for which the operations were performed :—

Two were cases of hydrosalpinx.

Four were cases of pelvic cellulitis.

Fourteen were cases of pyosalpinx.

In *six* the operations consisted of breaking down of adhesions preliminary to shortening the round ligaments.

In *five* adhesions were broken down by the finger and the pelvis drained.

Seven were cases of pelvic hæmatocele.

Two were removals of fibroid ovaries.

One was a perirectal abscess.

Six were cases of localised pelvic peritonitis.

Twenty-two were for removal of ovarian cysts.

Two were for removal of dermoid cysts of ovary.

Fifteen were for removal of cystic ovaries (nine left side, four right side, and two on both sides).

One was for abscess of ovary.

Eight were cases where cysts were removed from the ovaries, and the remainder of these ovaries left behind.

THE MODE OF OPERATION.

The patient lies in the recumbent position with the buttocks somewhat raised and projecting over the edge of the operating table. The knees are flexed on the abdomen and held in position by a crutch or by assistants. The vagina having been well douched with carbolic or perchloride the night and morning preceding the operation, is again well douched and swabbed out by the operator, who uses a duck-bill speculum to see that every part of the vagina is clean. Both lips of the cervix uteri are grasped and pulled forwards by a vulsellum forceps, which at the same time closes the canal of the cervix and prevents the egress of any discharge from it. The operator now passes as large a blade of a duck-bill speculum as convenient into the vagina, and holding this in his left hand directs his assistant, who stands on the left side of the patient, to pull the uterus downwards and forwards. The posterior attachment of the vagina to the uterus can soon be clearly seen, and by pressing the end of the speculum against it Douglas' pouch can with certainty be emptied. The operator, using his right hand, snips the posterior vaginal wall close to its uterine attachment with a pair of scissors, and either opens Douglas' pouch or cuts just so deeply that the thin peritoneal lining, in most cases containing some fluid, can be seen bulging into the wound. This is snipped through and the fluid comes away. The wound may now be enlarged if necessary, or if this necessity is not apparent the speculum is withdrawn and a clean finger passed into the pelvis to explore. The position and the condition of the ovaries and tubes can thus be correctly ascertained. The right hand should be used for exploring the right side of the pelvis, and the left hand for the left side. Adhesions can be broken down,

localised collections of fluid evacuated, and the uterus so freed that when the assistant relaxes his hold on the forceps that organ can be passed forward and downwards into position. Under these conditions, when nothing requires to be removed, sterilised sponges, natural or artificial, are used to clear the vagina and pelvic floor, the end of a piece of sterilised gauze is passed just into the small wound and the vagina is filled with the remainder, the vulsellum is removed, and the uterus is allowed to fall back. No disturbance whatever is produced. The gauze is renewed in a week, the patient rests in bed for another week, and a third week on a couch completes the treatment. The exploration has been the simplest and most effectual that can be made, and the information has been obtained and the relief secured with the least possible disturbance of unoffending organs. It is true that visual evidence has not been obtained, but in the cases I have referred to it is not necessary. When, however, visual evidence is necessary, it can be obtained in the following way: The opening is widened to the extent desired and in the direction of that side of the pelvis where the object lies that we wish to see. The blade of the speculum is then pushed into the pelvis, and a little manipulation, aided by sponges in holders, will generally expose the diseased part. If a small ovarian tumour is found filling up the pelvis, it can be aspirated and afterwards easily pulled down and ligatured or clamped. Pus tubes can be aspirated at their most dependent parts, the small orifice clamped, and then the sac brought down and the pedicle treated according to circumstances and predilections. In every one of my ninety-four cases, with a single exception, I used ordinary surgical pressure forceps instead of the ligature to secure the pedicle and to restrain hæmorrhage. The exceptional case was, strange to say, the last of the series, and was a small parovarian cyst with a twisted pedicle. The tumour was deeply and darkly congested like a strangulated hernia, and the patient was much collapsed and very ill. After aspiration of the cyst the tumour came down so

readily that the pedicle was easily ligatured and the vaginal opening closed by a single stitch. There can be no doubt that the ligature is the best method of treating the pedicle, and yet I have used forcipressure in nearly all my cases, and in all probability will continue to use the forceps, for the following reasons: The forceps are easy and the ligature difficult to apply in the confined space in which we have to work. The tissues are soft and easily torn, and do not admit of much tension or manipulation, to both of which they are much exposed during the application of a ligature. It is difficult to tie the ligature sufficiently tight in such a confined space on a tense pedicle, and the loosening of a ligature on a retracted pedicle may be a very serious affair. The bringing down of diseased structures into view is occasionally a matter of difficulty. Toothed forceps tear, and pressure forceps crush the delicate structures. The best instrument is the finger. By withdrawing the speculum and passing in one or two fingers of one or other hand, and remembering the pelvic anatomy, it is comparatively easy to separate adhesions. The different feel of the ovary, Fallopian tubes, bowel, uterus, &c., is easily distinguishable, and sight is not necessary. When the organ is separated and brought free into the pelvis, the finger may frequently work it into the vagina. But more frequently the speculum requires to be re-introduced, the tumour inspected and then brought down on the blade of the speculum, its pedicle clamped, and all below cut off. The pelvis is now sponged out clean, the wound packed with sterilised gauze and the vagina filled with the same, the uterus being allowed to fall back as the vagina is being filled.

STITCHING THE OPENING INTO DOUGLAS' POUCH.

This I have only done on one or two occasions when the gap seemed very wide. When the uterus is allowed to fall back into position the wound closes of its own accord and stitching is in most cases unnecessary. In fact, in

cases where we wish to drain the pelvis the great difficulty is to keep the wound open, especially when the opening is made, as I make it, close to the utero-vaginal junction. The wound has often been found firmly closed in twenty-four hours. If the pelvis is left clean and aseptic there is no harm in stitching, but on the whole leaving the wound unstitched is safer.

AFTER-TREATMENT.

The after-treatment in cases of exploration, breaking down of adhesions, removal of cyst walls and puncture of ovaries, has already been described. When a non-suppurating structure has been removed and clamped, the dressings are untouched for forty-eight hours, then the clamps are removed and the gauze left undisturbed for the remainder of the week, provided the temperature remains normal and the vagina without odour. The patient is encouraged to pass urine voluntarily, the orifice of the vagina being packed with some absorbent wool during micturition to prevent the gauze being soiled. No violent straining is allowed, and dorsal decubitus is insisted on. At the end of the week the gauze is removed, the duck-bill speculum introduced, the vagina *mopped out—never syringed*—with antiseptic “dabs,” and the patient left alone for another week. At the end of a fortnight syringing may be allowed after the opening into Douglas’ pouch has closed, but never before. When a suppurating or hæmorrhagic cavity is to be drained I usually employ gauze and dress the part every second day. The dressing is performed with the patient in the dorsal position, the buttocks projecting over the side of the bed, and a duck-bill speculum is passed behind the gauze. This facilitates its removal, the cervix uteri is pushed forward and upward with a retractor and the wound exposed. Antiseptic dabs of cotton-wool are pushed into the cavity, moved about and thrown away. In this way the vagina and cavity are cleaned. It is then re-packed

with double cyanide or iodoform gauze. No fluids are used in the dressing, and the cavity and vagina are well distended with the gauze. In this way the drainage is complete and the danger of infecting the peritoneal cavity is reduced to a minimum. The cavity shrinks up from day to day, sometimes very rapidly. When it is reduced to a mere sinus the packing may be left off, but it is unsafe to leave off the packing while a substantial cavity remains. The orifice has such a tendency to close that an abscess may readily re-form.

Mortality.—The mortality in the above ninety-four cases consisted of two deaths. One was a dermoid cyst of the ovary that was removed quite easily. That same evening the patient had an acute pain in the side and pleuro-pneumonia set in and proved fatal. The abdomen was unaffected. The second death occurred in a case of abscess of the right ovary that I opened and drained with gauze. The abscess was small and localised, and a good part of the ovary healthy, so that I was unfortunately tempted to save the organ. Acute streptococcus infection set in that evening and defied all efforts to prevent its spread to the general peritoneal cavity.

In all similar previous cases, I had removed the suppurating *movable* structure, and I will take care to always remove such in future.

COMPLICATIONS OF THE CONVALESCENCE.

While the mortality is very small, the convalescence as a general rule is uncomplicated. Pelvic peritonitis took place in four of the cases and left a thickening over the rectum that occasioned constipation, and in two temporary obstruction. This thickening was due to defective drainage in inflammatory cases and can be generally avoided by thorough drainage.

In one case of pyosalpinx where the tumour was scraped off the rectum, a fæcal fistula was expected and occurred.

At the end of rather more than a week the discharge of fæces ceased, and the final result proved quite satisfactory.

In one case some hæmorrhage took place on the third day after the clamps had been removed. On dressing the patient and clearing out clots from the vagina, the hæmorrhage ceased and did not recur. The bleeding point could not be found.

There have been no cases of vaginal hernia.

Ultimate results.—Although it is too soon to speak of ultimate results in some cases, and in many others there have been no recent reports, still I have seen the majority again and again, and my impression is that relief of symptoms is more general when the operation has been performed by the vaginal than by the abdominal route for the same disease.

Special remarks on the Diseases for which Posterior Vaginal Cæliotomy has been performed.—The nature of the disease modifies the operation, and hence a few special remarks on the list of diseases are necessary. In the two cases of hydrosalpinx, the ovary and tube were both removed. In the four cases of "pelvic cellulitis" a hard mass was found in the left broad ligament, Douglas' pouch was opened to the left of the middle line, and a sinus forceps passed up into the ligament. In two cases pus was not found, in two it was, and all four resolved much more rapidly after the operation than they appeared likely to before it was performed.

Half the cases of pyosalpinx were double. The tubes were generally curled up, more or less filled with cheesy matter and with their walls much thickened. The diseased tubes were clamped close to the uterus, and sometimes two or three forceps were employed to secure the mesosalpinx or adhesions liable to bleed. In the double operations an ovary was left if possible, and with the exception of three cases it was.

In shortening the round ligaments a difficulty sometimes arises from the presence of adhesions. In six cases during the last two years the presence of adhesions required treat-

ment, and the treatment that I adopt is to open Douglas' pouch and to free the uterus until it can be pushed forwards and downwards into position. The vagina is firmly packed with gauze so as to push the cervix uteri well up into the pelvis. The gauze is changed once a week for three weeks. This procedure has extended the scope of the operations of shortening the round ligaments.

Of the seven cases of pelvic hæmatocele the blood was encysted in six, in one only was it free in the abdominal cavity. In this case the tube ruptured late one night, profuse hæmorrhage occurred, and the patient became collapsed. Early next morning Douglas' pouch was opened, the tube brought down and clamped, and the foetus in its bag of waters protruding from the tube removed. The clots were cleared out of the pelvis, which was drained with gauze. The patient, who was about three months pregnant, is now in perfect health.

In three of the encysted cases the abdomen also required to be opened.

In one case there was a large tumour that projected into the right iliac and hypogastric region. The abdomen was opened, and it was found to be covered with omentum and small intestines to such an extent and so firmly as to promise a very formidable operation. I abandoned this route. The wound was packed with a sponge and Douglas' pouch opened. A thin-walled cyst presented, and on opening it more than a pint of bile-stained blood, containing many altered blood corpuscles, came away. The sac was drained *per vaginam* with a very satisfactory result. In the next case Douglas' pouch was opened and the sac was found filled with decomposing blood to such an extent that, thorough drainage being necessary, the abdomen was opened. The walls of the sac were found to be gangrenous, and involved the greater part of the pelvic peritoneum. As much slough was cleared as possible, and a curved glass tube passed from the abdominal wound into the vagina, and the dirty cavity washed out frequently. The

patient's life was saved after a long struggle against septic absorption, and she is now well.

In a third case a hæmatocele was drained per vaginam. Soon after the patient came back with double pyosalpinx, which were removed from above, as we feared the complication produced by the former vaginal operation.

In all these cases except the first it will be seen that it was not necessary to remove the tube or to tie any vessel. The free opening of the sac, turning out of the clot, and packing, secured the desired result, and the operation was in all a very simple and expeditious one.

The Two Cases of Fibroid Ovaries.—In these the organs were hard and small, and consisted almost entirely of fibroid tissue. They were removed on account of the great pain the patient suffered.

The Perirectal Abscess had originated in the operation for hæmorrhoids by ligature. The pus had travelled up between the vaginal and rectal walls, surrounded the rectum and passed into the pelvis beneath Douglas' pouch. Douglas' pouch was opened for diagnostic purposes, and the abscess was then opened outside the pelvis. It was a puzzling case, as we did not clearly know the history until after operation. If left alone it would have probably opened inside the pelvis.

Four of the six cases of pelvic peritonitis contained clear fluid, the quantity in each varying from two ounces to half a pint. In two cases large quantities of pus were found, bounded above by a wall of matted intestines. The relief in all was immediate. In one the bowel was dark and congested, and the wound was packed down to it with misgivings as to the result. In forty-eight hours the symptoms and fever had improved in character, and on repacking, the bowel was seen to be much more natural in colour. The subsequent history of the case was uneventful, and the patient is now quite well. An abdominal cœliotomy would have been very much more complicated and could not have been done with the same amount of safety.

All pelvic ovarian cysts that do not rise into the abdomen should be removed by vaginal cœliotomy. The whole operation need not occupy more than a few minutes; one or two snips are made with scissors, the sac is exposed, aspirated, drawn down, clamped, the vagina packed, and all is done. I operated in twenty-one of these cases, the contents measuring from an ounce to a pint of fluid.

Dermoid cysts of the ovary are more difficult, as they do not admit of aspiration. If too large to come out entire *per vaginam*, I prefer the abdominal route.

The great advantage of posterior cœliotomy is the facility with which the state of the ovaries, when doubtful, can be ascertained. They can be drawn down, inspected, and returned without damage. In no other way can their exact condition be determined so easily. I have had many proofs of the truth of this statement in cases where the patient has been examined bimanually under chloroform and declared to have nothing in the pelvis, and where by posterior vaginal cœliotomy we have found cystic ovaries holding an ounce or two of fluid.

These ovaries are generally comparatively free, and elude the firm bimanual pressure that can be exercised in a narcotised patient. The best method of detection is by the finger in a conscious patient. A light touch will detect the presence of enlarged cystic ovaries when rude pressure will not, and their extreme tenderness is a valuable guide that we cannot afford to lose.

I have known great injustice inflicted on sensible women by the diagnosis of hysteria in these cases. In the first place we do not know what hysteria is nor how it is caused, and when such a diagnosis is made it frequently means that we do not know what is the matter with the patient, and we sometimes really make the poor woman carry the burden of our ignorance in addition to her own pain. Several patients of mine, who have been cured of so-called hysteria by operations carried out by posterior vaginal cœliotomy, have told me the misery they endured for years through the

belief of doctors, husbands, parents, relatives, or friends that the pelvic pain and distress was purely hysterical. In these obstinate cases, with which our list terminates, the ovaries can be inspected and (except in the case of abscesses) the most conservative operations can be performed with impunity.

In thirteen cases one or other ovary was so diseased that it was deemed useless to preserve it, and it was removed. In two cases both ovaries were cystic and it was considered best to remove them.

In eight cases the ovaries had their cyst walls only removed. This is done by bringing the ovary into view in the hollow of the speculum, and with a pair of scissors snipping a piece out of the wall. The wall rarely bleeds, never to any great extent. Smaller cysts may be punctured, or ignipuncture may be used, but the most certain way is to take a piece out of the cyst wall. It cannot then refill.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JUNE 13, 1901.

MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT, IN THE CHAIR.

EXHIBITION OF SPECIMENS.

Mr. W. H. NEWNHAM, M.A., M.B., physician-accoucheur Bristol General Hospital, showed a fibromyoma, which consisted of four distinct tumours growing from one base, one of the four having become quite calcareous in parts. The patient, E. F., aged 40, first seen in consultation with Dr. Perrott, was suffering from a large abdominal tumour which caused difficulty in micturition and defæcation. She had always had excessive hæmorrhage at the menstrual periods, but during the last three years this had been accentuated and accompanied by great pain. The uterine sound passed only three inches, but the tumour completely blocked the pelvis. On February 21, 1901, the abdomen was opened and the tumour removed by intra-peritoneal hysterectomy. Both ovaries were left behind, and the uterine arteries were not secured until the tumour had been removed. There was no hæmorrhage. The patient recovered without a single bad symptom, and left the Bristol General Hospital on March 18, 1901, or twenty-five days after the operation. At the present date she is in perfect health.

Mr. SKENE KEITH (London) showed five specimens of uterine fibroid, three of which illustrated in a striking manner the variable rapidity with which these tumours grew.

The first specimen consisted of typical subperitoneal, intramural, and submucous growths, removed from a

patient, aged 28. Pain, fever, and hæmorrhage had necessitated confinement to bed during the six weeks preceding the operation. Four months prior to the removal Mr. Skene Keith had performed perineorrhaphy, and at that time there were no irregularities on the surface of the uterus, which he palpated without difficulty, and which appeared, from its size and consistency, to be subinvolutcd only. The second specimen, removed from a patient aged 34, had been discovered at the last confinement four years before the operation. The tumour which constituted the third specimen weighed eight pounds. It had been removed from a woman aged 28, and, although probably of only two years' duration, was far larger than the previous specimen. Interest attached to the fourth specimen because the patient had three years previously derived marked, though temporary, benefit from treatment by Apostoli's method. Failure to obtain permanent relief from electrical treatment was explained by the submucous position of the tumour. The tumour in the fifth specimen, removed from a patient aged 45, was of a fibrocystic nature. The body of the uterus, which was shown, contained two polypi. The weight of the growth was fourteen pounds. Commenting upon the exhibition of such specimens by an advocate of Apostoli's treatment, he said that the conditions had materially altered since he visited Paris to see Apostoli in 1887. At that time the published results in hysterectomy showed a mortality of over 30 per cent. or one death in three, and though his father lost only one patient in twelve, even with this lower mortality it was not considered justifiable to advise operation unless the patients were seriously ill. The mortality to-day was less than 5 per cent.; though in some instances this figure was exceeded, *e.g.*, at the Samaritan Hospital, where for the last two years there was a mortality of 10·6 per cent. At the same hospital, however, the death-rate after ovariectomy for the same two years was 16·6 per cent., and in the year 1899 reached 19·6 per cent.

Mr. CHAS. RYALL, F.R.C.S., showed a specimen of "single soft Myoma Uteri," which he had removed by abdominal hysterectomy. The case was of interest as illustrating Dr. Snow's paper.

D. F., surgical nurse, aged 37, admitted into the Cancer Hospital suffering from a rapidly enlarging tumour of the abdomen. She had first noticed the abdominal swelling seven months ago, and the abdomen had since steadily enlarged, though there had been no pain until quite recently, and then only a slight dragging pain in the right inguinal region. The menstrual periods had become more profuse, lasting seven or eight days, and occurring every three weeks. There had been marked loss of flesh and strength, but no great anæmia.

On examination.—A large, smooth and solid tumour connected with the uterus was found rising out of the pelvis. Bimanual examination showed a large mass projecting into the pouch of Douglas, and the tumour was found to have little mobility. A soft single myoma was diagnosed, and hysterectomy was recommended because of its rapid growth.

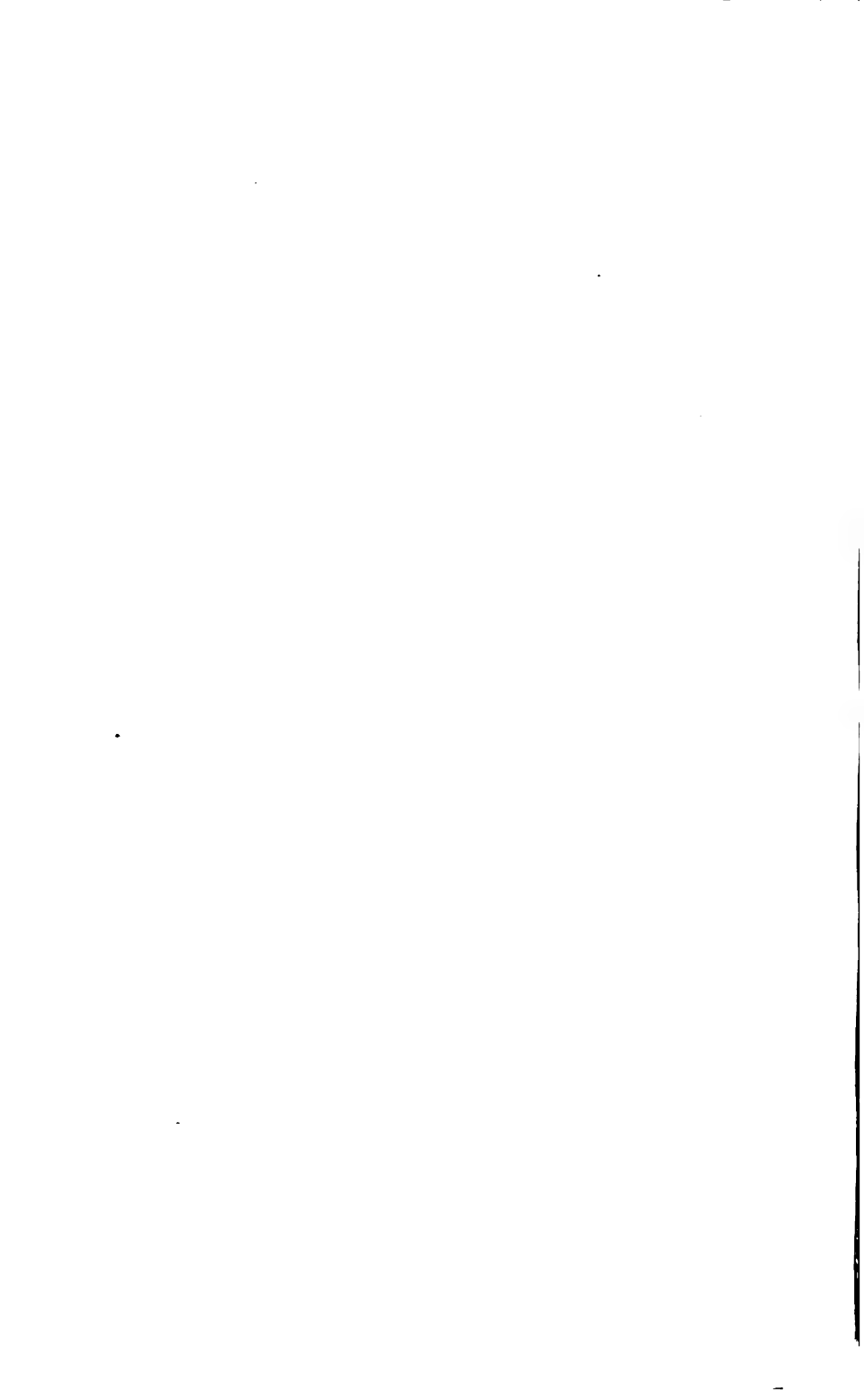
Operation, January 29.—The abdomen was opened in the middle line, and the uterus and tumour were drawn out of the wound with the aid of a myoma screw. After securing the broad ligaments the uterus was amputated about the level of the os internum, the peritoneum was sewn over the cervical stump, and the abdominal wall sutured in three layers. The tumour was a soft single myoma of the submucous variety, and occupied the posterior uterine wall. The uterine cavity was considerably enlarged, and the sound could be passed for six inches. The patient made an uneventful and uninterrupted recovery.

A CASE OF ECTOPIC GESTATION WITH SEPTIC INFECTION
OF THE GESTATION SAC. By H. MACNAUGHTON-JONES,
M.D., M.A.O., F.R.C.S. Irel. and Edin.

A patient, aged 30, was seen by me in consultation with Dr. Alexander McDonnell, of Stamford Hill, towards the end of March, 1901. She had been married nine years, her only pregnancy being one at the close of the first year. The periods had been normal and regular up to November 24, 1900. On different occasions she had been treated for retroversion and prolapse of the uterus. On December 10, 1900, she was attacked with violent abdominal pain, which passed off, but recurred on January 10, 1901. The catamenia appeared on January 24. On the 29th there was a recurrence of the severe pain, which lasted for three days, when she passed from the vagina what she described as "a yellowish pink-substance somewhat like the roe of a mackerel." She remained in bed for a fortnight, and on February 10 was able to go out of doors. On the 25th she was attacked with severe hæmorrhage, and again she passed portions of the same substance as before. Hæmorrhage and pain ceased until March 11, when the former again recurred. On examination I found a fairly large tumour behind the uterus and associated with it, the uterine cavity being some two and three-quarter inches in length. Believing, with Dr. McDonnell, the case to be one of ectopic gestation, and having regard to the size of the mass and the presence of adhesions, abdominal cœliotomy was determined upon, and the operation was performed on April 1. The adhesions were separated with but little trouble, but in the delivery of the sac through the enlarged abdominal incision a portion of the thin wall ruptured and some extremely foetid fluid escaped, creating at the time quite a stench. The pelvic cavity was repeatedly cleansed with weak formalin solution, and as the bowel was well protected from the sac, the only parts really affected, and these unavoidably, were the margins of the wound. These latter

were well wiped with 1 in 1000 of formalin before being closed, and an iodoform gauze drain was left in. There was nothing unusual in the course of the case for forty-eight hours, when the temperature rose to over 100° F., and the patient commenced to vomit. This, however, was controlled by an effervescing mixture. Sulphate of magnesia and calomel were given, both being retained, but without any result. Still, the temperature did not again reach 100°, nor did the pulse exceed 96 up to the fourth day. In the afternoon of that day, as the abdomen was distended and there was no result from enemata, while the vomiting recurred and the countenance did not improve, the pulse reaching 110, I determined to re-open the abdomen. On doing so I found the atonic bowel to be considerably distended, but could not detect any kink or cause for obstruction. The pelvic cavity was quite free from any fluid and there was no evidence of any peritonitis or of infection of the peritoneum, but the margins of the abdominal wound showed a dense slough for its entire extent. There had been no indication of this from the appearance of the incision. The patient had complained of little or no pain from the time of the operation. The slough at either side was cleared off as far as possible and a drainage tube was inserted. As I had to leave home the same night Mr. Targett kindly took charge of the case for me. The temperature fell the next day to normal, but again it rose to 100° in the evening, the pulse becoming more rapid (from 120 to 140) with a return of the vomiting. Despite every means employed to combat the sickness and maintain her strength, including enemata, saline injections, washing out of the stomach, &c., death occurred on the seventh day after operation.

In this case the temperature never exceeded 100·2° F., and there was an absence of the usual symptoms of general peritonitis. Mr. Targett reported of the specimen that it consisted of the right uterine appendages and a gestation sac, the latter being inclosed within the outer end of a dilated Fallopian tube :—





Gestation sac with foetus; the upper cavity shown in the drawing is that in which the septic fluid was contained.

"On section the wall of the gestation sac was found to be infiltrated with blood-clot and fibrin, as in a tubal mole. Where suppuration has occurred the placental tissue is separated from the inflamed tube by pus, and chorionic villi are in actual contact with the inflammatory products. The mucous membrane of the tube is destroyed and replaced by granulation tissue. The tumour is roughly spherical in shape and measures $8 \times 7 \times 6$ centimetres ($3\frac{1}{4} \times 2\frac{3}{4} \times 2\frac{1}{4}$ inches) in its chief diameters after fixation in formalin. A portion of the posterior wall of the mass has been removed and reveals two cavities. The larger of these is the gestation sac containing a foetus, while the smaller is a space formed between the gestation sac and the wall of the dilated Fallopian tube. In the recent state this latter space was filled with very offensive pus. Flattened out on the half of the tumour nearest to the uterus is the right ovary. The characters of the gestation sac are precisely those of an apoplectic or blighted ovum. It measures about five centimetres in its chief diameter, and its wall is composed largely of blood-clot in various stages of consolidation. The interior is lined with amnion which is unevenly raised by hæmorrhages beneath it. A foetus measuring 2.75 centimetres is attached to the wall of the sac by an œdematous umbilical cord 1.75 centimetres in length, corresponding with the stage of development at the end of the second month. The suppurating cavity, semilunar in shape, represents that part of the dilated ampulla of the tube not occupied by the gestation sac." From this relation it would appear that the tubal gestation had ended in a molar pregnancy or apoplectic ovum, and that secondary suppuration had been set up within the dilated tube and around the ovum. Consequently the pus had collected in that internal cavity which always surrounds a tubal mole owing to the ovum being adherent at only one spot upon the wall of the dilated tube.

It would seem that the source of infection must have been through the adherent bowel. The patient having

suffered from retroversion of the uterus, the early symptoms might naturally lead to the impression that it was an enlarged retroverted and gravid uterus, and tend to make the diagnosis less certain. From the size of the tumour and the impression which it conveyed of fixation by adhesions I determined on the abdominal operation, though, as events proved, considering the nature of the sac, the vaginal one would have been the safest one for the patient. Had I a similar case again, with rupture of a foetid sac, having protected the bowel I should first char the margins of the abdominal wound with the thermo-cautery, and then at some distance from the charred surfaces make a new incision at either side before closing the wound. Not long since I opened the abdomen for a large and very foetid subperitoneal abscess which had penetrated the peritoneum. Having evacuated the pus and thoroughly cleansed out the abdominal cavity with formalin, disinfecting the edges of the wound, which were covered by a foul and deep slough, I removed this at either side before bringing the edges together and drained. Contrary to my expectation the patient made an excellent recovery.

The PRESIDENT said that when an extrauterine foetus had become putrescent, or any extravasated blood had become septic, the operation described by Dr. Macnaughton-Jones was almost invariably fatal. If the septic condition were recognised before operation the vaginal route should be adopted, and the patient's life would then probably be saved. In the absence of evidence of sepsis the operator naturally selected the abdominal route.

Dr. HEYWOOD SMITH (London) asked if there were any indications, before operation, that suppuration was present, and further, whether it might not be feasible to obviate putrescence by employing abdominal injections.

Mr. FURNEAUX JORDAN said that no doubt, as Dr. Macnaughton-Jones had suggested, the adhesion of the sac wall to the bowel and its becoming thin at that particular point, accounted for the infection of its contents. An interesting

point, exemplified by this specimen, was that such a condition might remain quiescent for two or three months or longer. The foetus had evidently been discharged when the patient had the first attack of pain and hæmorrhage. Mr. Furneaux Jordan then described the following case, in which the history was very similar to that of Dr. Macnaughton-Jones' patient. A lady was twice curetted in America for supposed retention of the placenta after abortion. She then gradually improved, and menstruated regularly for two years, when intense pain set in in the abdomen. About ten days after its onset the abdomen became enormously distended, and the patient was found to have a high temperature. The swelling reached well above the umbilicus, and extended a little way into the pelvis, not, however, into Douglas' pouch. On opening the abdomen Mr. Furneaux Jordan found a sac embedded in adherent bowel and omentum. On separating the adhesions two pints of very foetid pus escaped and a macerated foetus, which corresponded in size to the duration of pregnancy prior to the abortion already referred to as having taken place in America. The patient, who was for some time in a very critical condition, ultimately recovered.

ADJOURNED DISCUSSION ON DR. ALEXANDER'S PAPER ON
POSTERIOR VAGINAL CÆLIOTOMY IN OPERATIONS FOR
PELVIC DISEASES.

Dr. HODGSON, in comparing the abdominal and vaginal routes for operation, questioned the possibility of rendering the vagina permanently aseptic. It might be rendered temporarily so, but was liable to become subsequently infected from the rectum, or by discharges from the uterine cavity. (1) He doubted the possibility of distinguishing a portion of adherent ileum from mesentery, by touch alone, with sufficient certainty to give one the courage to detach in the dark that which might be ileum. (2) Referring to Dr. Alexander's statement that it was rarely necessary to employ sutures to close the vaginal wound, Dr. Hodgson

said he thought that they should at least be employed to keep the edges of the peritoneal opening accurately together. In the majority of vaginal operations the operator was working in comparative darkness ; and, subsequently, adhesions were much more likely to occur. These considerations lead him to believe that the abdominal route should be that of selection.

Mr. FURNEAUX JORDAN (Birmingham) said that Dr. Alexander's paper was of peculiar interest to him, as he had long advocated the adoption of the vaginal route in suitable cases. He did not regard the question as one of operation per vaginam *versus* operation per abdomen. Removal by the vagina was to be regarded as an additional method of treating disease which, in certain cases, was devoid of many of the dangers attending removal by the abdomen. It was not possible to lay down hard and fast rules. The route adopted should be determined by such considerations as the relative sizes of the tumour, the pelvis, and the vaginal canal, the nature of the disease, and the condition of the abdominal walls. He approved of the use of the clamp to secure the pedicle of a cyst or a Fallopian tube, and had never seen harm result from its employment. He had in one case of acute suppurative peritonitis, in which there was such distension of the abdomen that breathing was seriously hampered, made an incision into Douglas' pouch without the administration of an anæsthetic. Three pints of pus escaped, but the woman, who was dying at the time, lived only a few hours afterwards. With the exception of this case, which was only technically a vaginal cœliotomy, though he had performed this operation over sixty times, not only had he no deaths but he had never seen trouble follow. The patients were able both to get up and to resume work earlier than were those in whom an abdominal incision had been made, and did not have to wear a belt. These were considerations of importance to poor women. Lastly, the absence of an abdominal scar was an advantage should the patients subse-

quently become pregnant. The vagina could be rendered aseptic to the same degree and as easily as the abdominal wall, an opinion substantiated by the results obtained when the vagina was availed of for the removal of disease. Those who denied the possibility of rendering it aseptic should bring forward or quote cases in support of their contention. If those opposed on theoretical grounds to removal of disease by the vagina would give the method a trial they would be convinced of its value.

Dr. MACNAUGHTON-JONES said that the first point in selection of the route was the diagnosis. There must ever be a proportion of cases which could only be operated upon by abdominal cœliotomy, and others in which on every ground preference should be given to the vaginal route. The indications for and against one or the other had been times out of number discussed *ad nauseam*. Given a case suitable for operation by vaginal cœliotomy, whether we looked to the facility of operation, the risks and prevention of post-operative consequences, or to the possibility of obtaining ready drainage when required, it certainly was the method for selection. This fact, however, in no way touched the advantages claimed for, and which were indisputably appertaining to, the Trendelenburg method in the greater control of parts, certainty in technique, and exposure of the operative field. He preferred ligatures to clamps in the vaginal operation.

Dr. ALEXANDER, in reply, said that he did not think proximity to the rectum a valid objection against vaginal cœliotomy. The field of operation was as close to the rectum in abdominal cœliotomy as in vaginal; in fact, it occupied the same place. The vulsellum forceps effectually closed the os uteri, and provided against infection from that source during the operation. After the operation the vagina was packed with antiseptic gauze, which not only kept it sweet but drained away any discharge as it was formed. As to dealing with adhesions, they were as a general rule easily separated by the finger, and it was generally possible,

by manipulating the speculum, to actually inspect the field of operation, so that we were really not working any more in the dark than in abdominal cœliotomy. Stitches were not necessary. The wound was closed effectually by the falling back of the uterus and the bladder, and the edges came together so accurately that there was no overlapping. Dr. Alexander was glad to hear that Dr. Jordan agreed with him as to the use of clamps instead of ligatures. The tissues to be dealt with were generally so soft that it was impossible to catch them and pull them down by forceps without running the risk of tearing them away from their attachments, whereas the clamps could be applied without any such disturbance, and the prevention of hæmorrhage was certain. He did not agree with Dr. Macnaughton-Jones as to the ease with which a bleeding vessel could be found in these operations. The bleeding point in vaginal cœliotomy lies high up at one of the extremities of the broad ligament and probably could not be reached and tied without opening the abdomen. It was therefore absolutely necessary that all possibility of hæmorrhage should be prevented at the time of the operation, and this was done most effectually by clamps. In vaginal cœliotomy the possibility of hernia was completely avoided, and although the present method of performing abdominal cœliotomy guards more effectually than the older methods against its occurrence, still the possibility of hernia was always present, and in all probability took place much more frequently than surgeons admitted. He noticed that it was always the most recent method of operating that was supposed to prevent hernia. The truth really was that all methods failed, and that a considerable amount of time was required to show whether hernia would occur or not. In sloughing ectopic gestation such as the case Dr. Macnaughton-Jones had read, the vaginal route would certainly have been much safer, and although the sac could not have been removed by that route, still the dangerous contents of the sac could first have been drained with safety, and then the shrunken tumour could have been removed by

the abdominal route. In fact, this was the course adopted in a similar case described by Dr. Alexander in his paper.

THE SOFT ŒDEMATOUS MYOMA (MONOMA) OF LAWSON TAIT. By HERBERT SNOW, M.D.Lond., &c., Senior Acting-Surgeon, Cancer Hospital, Brompton.

I hardly think any one will dispute the claim of our former President, the late Mr. Lawson Tait, whatever may have been his personal defects, to be regarded as the most original and brilliant gynæcologist of modern times. One of his most important contributions to that science seems to me to be in some risk of falling into oblivion ; at least, I do not remember any allusion to the point since the publication of his work. And although the case I have to report was unfortunately not successful, I feel sure that, apart from its own intrinsic interest, the Society will approve of anything tending to rescue a question of much practical significance from unmerited neglect.

It will be remembered that Lawson Tait's experience led him to distinguish, and to insist strongly on, the clinical difference between two species of uterine myoma. He laid down two fundamental distinctions to begin with. The common prevalent fibroid tumour is generally multiple when first encountered ; and, if not, speedily so becomes as time advances. The rarer, the "soft œdematous myoma," is invariably a solitary tumour, and remains single to the end. In the second place, while the former may never attain any considerable size, and may even diminish in bulk after the menopause, the latter always steadily continues to increase until the patient is "released by art, or removed by death." That is to say, in other words, while the common myoma is a benign new growth, the rarer "soft œdematous myoma" is one truly malignant.

Then Lawson Tait further drew certain minor distinctions, into which I am not sure we can unreservedly follow him. Thus he stated that removal of the appendages

promptly terminated the growth and the attendant menorrhagia of the common myoma, while that operation had no effect on the rarer variety. The former arises only during the menstrual epoch; the latter prefers the old, though, as in my own case, it may begin earlier. The ordinary myoma tends to diminish in bulk after the climacteric; the latter is wholly unaffected by this. The former often involves menorrhagia; the latter is rarely attended by undue loss of blood *per vaginam*, and has no influence whatever on the menses.

One of Mr. Tait's cases ultimately involved a livid protrusion through the umbilical aperture. I had an opportunity of examining microscopic sections from two others. One showed only non-striated muscle-fibre; the other the abundant nuclei and small spindle-cells which denote a myosarcoma. In such matters, as I have often insisted, the clinical evidence of malignancy is far more trustworthy than the report of a microscopist who has never seen the case. The malignant process is commonly limited to certain areas, which may not be included when a thin section is cut for the microscope, or may escape notice even when present therein.

The following is a brief note of the case in question :—

Lucy J., aged 47, married, but for several years separated from husband, was admitted into the Cancer Hospital, November 27, 1900. She had previously, in 1895, undergone an operation there for cystic degeneration of the mamma. Since then there had been menorrhagia. There had been one child born at full term, one miscarriage, one premature birth. Had noticed enlargement of the abdomen one year. Had lost much weight in the past eight months, though still stout and rather flabby-looking. At the menstrual periods there was much pain, but that had always been the case. The loss, however, was "like that of a confinement."

The abdomen was found distended by a central, round, mobile mass, exhibiting ill-defined fluctuation like that of a

tense cyst. A consultation of the staff was held according to rule, and while the majority regarded the tumour as solid, the possibility of a thick-walled ovarian cyst was admitted.

Abdominal hysterectomy, after Dr. Heywood Smith's method, was performed on November 30. The divided cervix proved exceptionally vascular. On the following day all was well, as the temperature chart sufficiently indicates. There was no vomiting, and not even a headache. And here I cannot forbear quoting the astute remark subsequently made to me by the excellent nurse in charge of the case, that "she was always better pleased when they vomited well after an abdominal operation, for otherwise it seemed as though they had to get rid of the bile afterwards, and were thus thrown back."

On the morning of the second day an enema of glycerine and peppermint water was given according to my invariable rule, and the bowels acted freely.

On the afternoon of the 3rd, going into the ward, I found that the abdomen was distended and that the patient was vomiting. Another enema was immediately ordered. The bowels acted, the patient passed flatus, and felt much relieved.

At about 4 o'clock on the following morning, however, she again began to vomit, and this time the ejecta were faecal. I was sent for at eight. Another enema was administered, and preparations were made for re-opening the abdomen. The patient, however, sank rapidly, and died at 12.30.

At the autopsy enormous distension of the stomach and intestines was found, with two perforations of the ileum about ten inches above the ilio-cæcal valve. The peritoneum was perfectly healthy, and all the surgical conditions in every way satisfactory. No adhesion, kink, or other source of obstruction could be detected. There were three inches of fat on the abdominal wall; a condition pointing, I think, to rather free indulgence in alcohol, which I regard as militating strongly against recovery in such cases.

It must surely be an almost unique event for a not aged woman to go on for several days after a cœliotomy, having her bowels well moved more than once, and then to collapse suddenly from intestinal distension and rupture, without any mechanical source of obstruction whatever.

The microscopic section exhibited shows, over almost the whole area, the organic muscle-fibre of an ordinary myoma. A very minute region, however, displays the heaped-up leucocytes and abundant cell-proliferation denoting a cancerous degeneration.

Apart from the very unexpected and peculiar ending, I should direct the Society's attention to the following points :

(1) The existence of this progressive and malignant growth, for which I venture to propose the new term "monoma."

(2) The importance of differentiating it from the comparatively harmless myoma, by this or some other distinctive word. For here there can be no question of tentative measures or of delay. The disease is malignant, and once recognised should be immediately removed.

(3) The important question of diagnosis, hitherto neglected, and as yet unsettled. The presence or absence of vaginal hæmorrhage, as insisted on by Lawson Tait, is untrustworthy. With that event alcoholic habits have much to do. Age also is an uncertain factor.

If we encounter a solitary, rounded, *doughy*, central uterine tumour which is growing rapidly while the patient is losing weight, if we find an indistinct fluctuation, so that we doubt whether it is not an ovarian cyst we are dealing with, and if there has been much recent trouble and anxiety, then I hold we are justified in diagnosing a monoma and in advising prompt excision.

To the naked eye the tumour will, after removal, present a superficial resemblance to the common benign form. But its solitary condition, if any size has been reached ; the division of the cut surface into lobules, between which are connective-tissue trabeculæ infiltrated with serum ; the

presence of soft areas, into which one can easily push one's finger, contrasted with the hard dense lobes of ordinary myoma tissue, sufficiently differentiate it.

Under the microscope the malignant portions will show very numerous leucocytes, with cancerous proliferation of the muscle nuclei; while the non-malignant will display only the phenomena of well organised muscle. But here special supervision must be exercised over the proceedings of the pathologist. Otherwise the section will probably be taken from the tough, well organised areas, while the softer and more vascular, upon which the accuracy of his report will mainly depend, are prone to escape. I fancy the thin section here exhibited, and over the cutting whereof no such supervision took place, will exemplify the error which might so readily arise; for you see only a very minute portion of malignant tissue at one edge of the section, its bulk being composed of well-organised muscle fibre.

NEW FELLOWS.

On April 25 the following gentlemen were elected Honorary Fellows of the Society :—

Charles Henry Felix Routh, M.D., M.R.C.P., Consulting Physician to the Samaritan Free Hospital ; an original Fellow and Vice-President of the Society ; President, 1890.

Bernhard Sigmund Schultze, M.D., Professor of Obstetrics and Gynæcology, and Director of the Obstetric and Gynæcological Clinic and Polyclinic in the University of Jena.

ORDINARY FELLOWS.

The following gentlemen have been elected Fellows of the Society :—

Edward Augustus Lermite, M.B., B.S., M.R.C.S., L.R.C.P.

Edward Tait Robinson, M.D.

James Duncan Reid, M.B., C.M.

Alfred Shearer, M.B., Ch.B.

Peter Lewis Daniel, F.R.C.S.

George Osborne Hughes, M.R.C.S., L.R.C.P., M.D.

J. Lowenthal, M.R.C.S.

E. Beoddard, M.D.

Thomas Cullen, M.D.

ORIGINAL COMMUNICATIONS.

A CASE OF PUERPERAL SEPTICÆMIA, PYÆMIA, AND
INSANITY.

BY F. PERCY ELLIOTT, M.B., C.M. Aberdeen.,

Medical Officer to the Walthamstow Dispensary.

THE following case is of considerable interest, as the infection seems to have been due to the use of an aseptic vaginal douche on the thirteenth day after delivery, and the patient was treated with antistreptococcic serum, and recovered after death appeared to be inevitable.

Mrs. H., aged 27, after her first confinement, six years ago, suffered from subinvolution and prolapse of the uterus, and was unable to suckle her child owing to mastitis. Two years ago she was delivered at term of her second child, stillborn. She was then, on account of her previous trouble, kept in bed for a fortnight, and vaginal douching was begun during the second week, and continued for several weeks afterwards. The injections at first caused her to complain of pain, but she was extremely neurotic and averse to being douched, and as no elevation of temperature or septic symptoms supervened, the injections were continued; she made an excellent recovery, and the uterus regained its normal condition in a few months.

On January 14 of this year she was delivered, after a natural labour of seven hours, of a full-term living child, the head presenting in the first position. The after-birth was expelled naturally, and on being carefully examined appeared to be complete; the uterus was thoroughly emptied of clots, and satisfactory contraction and retraction secured. The labour was in every sense normal.

Up to the thirteenth day the course of childbed was perfectly normal; there was no rise of temperature, and the patient expressed herself as feeling better than after either of her previous confinements. In view of her past uterine affection, and with the idea of hastening involution, it was decided to employ warm vaginal douches; a new Higginson's syringe was procured for the purpose, and minute instructions were given

to the nurse, an intelligent woman, who had never, at any time during her nursing career, been in attendance on a case of puerperal fever or in contact with infectious disease.

On the thirteenth day after delivery (January 27), for the first time a warm vaginal injection of Condyl's fluid was administered in the most careful manner, but on the patient complaining of pain the injection was immediately discontinued. Within an hour she had a rigor, and soon became very feverish, and other symptoms of septicæmia quickly followed. Between January 27 and February 5 her temperature ranged from 103° to 104° F.; on only one occasion when it was taken was it below 103° F., viz., on the morning of January 31; her pulse to 140; the bowels acted regularly, but her tongue became much coated, and her hands were affected with a fine tremor, commencing on the third day of illness. Three days after the rigor (January 30) a universal roseolous rash appeared, which varied in intensity from time to time, and towards the end of the week was followed by desquamation about the face and neck. There was delirium, especially at night, but a sufficient amount of sleep was obtained. The lochial discharge ceased on the sixth day of illness. There was much tenderness in the left iliac region from the commencement of illness, but no definite signs of abscess formation and no distension of the abdomen. The os was well contracted. On January 31, the fifth day, the left wrist and left foot became red, swollen, and very painful. The secretion of milk was completely suppressed by February 3. The patient took nourishment well, and her mental condition was quite normal to the evening of February 5.

February 6. Morning temperature normal for the first time; pulse 100 and of fair strength; tongue very much coated; patient very drowsy and roused with difficulty, speech thick and unintelligible; tremors very marked. In the evening the patient was comatose, her skin covered with clammy sweat, and her abdomen for the first time was greatly distended. Temperature 97° F.; pulse 120. She was given an injection of 10 cc. of antistreptococcic serum.

February 7. After a night of more or less unconsciousness the patient gradually roused; but did not recognise her attendants. She was delusional; talked a great deal in a low, muttering manner. Carphology was associated with the tremor. Temperature normal; pulse 100. In the evening great restlessness, but the general condition otherwise about the same. A second injection of 10 cc. of serum was given and also morphia ($\frac{1}{4}$ grain) hypodermically.

February 8. Mental condition clearer but delusions persisted and also the carphology and tremor. Temperature, morning 99° F., evening normal.

February 9. Slept well during the night, consciousness quite regained, but still delusional. Temperature 100.4° F.; pulse 100. The tongue red, with sordes on lips and teeth. Great abdominal distension, somewhat relieved by the passage of a quantity of stinking flatus after an enema of

gruel and turpentine. Tremor and carphology as before. Evening temperature normal.

February 12. Temperature normal; pulse 90. The patient was quite rational, except for the delusion that she was away from home. The next day for the first time she recognised that this was not so. During the past week the condition of the foot had been improving, that of the wrist unchanged, but the forearm had become inflamed. The bowels acted freely, a large quantity of foul gas escaping with and independently of the motions; for two or three days there was incontinence of urine and fæces. There has been extensive desquamation about the trunk and limbs, and sordes, tremor and carphology have entirely disappeared. Except while she was unconscious nourishment was well taken and a fair amount of sleep was obtained.

February 14. Elbow joint very red and swollen and great pain in it and the arm. Tongue again coated. Temperature, morning $103^{\circ}2'$ F., evening $102^{\circ}8'$ F.; pulse 120.

February 15. Patient again began to wander in her mind, and her pulse reached 140. Temperature, morning 103° F., evening $102^{\circ}2'$ F.

February 16. Wandering more marked; tremor and carphology returned, and the patient lay on her side in an attitude of general flexion. Temperature, morning $102^{\circ}8'$ F., evening $102^{\circ}2'$ F.; pulse 120 to 130.

February 17. Incoherent muttering and delusions. Temperature normal; pulse 120.

February 18. Patient became maniacal and was with difficulty restrained in bed. Temperature normal;¹ pulse 100.

February 19 to 20. The temperature varied from 100 to 102° F. The mental and general condition of the patient showed improvement.

February 21. The temperature became normal again and the mental condition was quite recovered from this day.

For about a week from this date the temperature varied between normal in the morning and 100° F. in the evening, afterwards remaining normal till convalescence. There was no further mental disturbance; the inflammation of the joints and arm gradually subsided; and with massage and forced movements recovery was ultimately complete. Peeling ended in the fourth week and did not affect the palms or soles. The patient left her bed on March 10, and a fortnight later went away for change of air. In six weeks she returned looking quite well. The only reminder of her serious illness is slight backache. The condition of the uterus and appendages has not been ascertained since her return.

¹ During the period of maniacal excitement the temperature was taken while the patient was forcibly restrained. Throughout the illness the temperature was obtained from the axilla.

Remarks.—There is no doubt in the writer's mind that in this case the septicæmia arose directly from the use of the vaginal douche. The history of the case shows that prior to the injection there was no septic symptom whatever, the course of the lying-in having been absolutely normal. The douche was administered with the greatest precautions, and the only explanation which has occurred to the writer of its having been in this particular instance the cause of sepsis is that some *materies morbi* lurking in the vagina may have been conveyed into the uterine cavity by the injection. The case is altogether remarkable, as it seems almost impossible that such a train of grave symptoms could result from an antiseptic douche, properly used, under the conditions that existed in the case, that is to say, a normal lying-in, a well contracted os, and an interval of thirteen days after delivery. The brilliant recovery, from what appeared to be inevitable death, is another feature of the case worthy of special comment. The comatose state of the patient was in no wise due to the narcosis of drugs or stimulants, for no narcotic or hypnotic drug had then been administered, and the amount of stimulant taken (half an ounce of brandy every three hours, commenced some days previously) was quite too small to account for such deep coma. There was no albuminuria throughout the course of the disease, and the urine was always secreted freely. No mania could be traced in the family, but the patient came from a neurotic stock, and, as already mentioned, was herself highly neurotic. She had hallucinations of vision and hearing, but her most prominent delusion was that she was absent from home; while her mania was acute she took great dislike to her husband and nurse. The child was taken away from her early in her illness.

As regards treatment: Except during the periods of coma and maniacal excitement, nourishment was readily taken, and large quantities of milk, plasmon, and eggs were given her, and occasionally, chiefly when there was any difficulty in administering these in sufficient quantity, broths

and meat essences ; fortunately, the digestive functions were always satisfactory.

Stimulants (brandy and whiskey) were given in moderate doses according to the condition of the pulse, and were not begun until it began to get small ; as the pulse got weaker they were given more freely, but never to a greater extent than 12 ounces in the twenty-four hours (1 ounce every two hours). It will be noticed how well the pulse behaved during the illness, and this the writer attributes, in no small measure, to the judicious use of stimulants, although the fact that the patient took nourishment well is not to be lost sight of. During convalescence port wine replaced brandy and whiskey.

The medicinal treatment adopted during the first three weeks was mainly sulphate of quinine, the dose being regulated by the temperature ; at one time as much as 15 grains every four hours were given. These large doses caused great deafness, but only slight headache ; on one or two occasions the mental symptoms seemed to be aggravated by the large doses of quinine and, while the 15 grains were continued night and morning, the doses in the intervals were reduced to 5 grains every four hours. The mental symptoms, however, persisted when the temperature was moderate and the amount of quinine taken consequently small, and consequently could only have been intensified to a very slight extent by the quinine. Antipyrin was given twice (10 grains), mainly to relieve the headache. One hypodermic injection of morphia ($\frac{1}{4}$ grain), was used to procure sleep when the patient was in a restless and excitable condition on the night following the coma, and this was the only occasion on which opium was employed in any form ; a bromide mixture was, however, given to induce sleep on three or four nights. Cinchona bark and chlorate of potash were prescribed in place of quinine on February 20, and citrate of iron and ammonia, with tincture of nux vomica, during convalescence.

It will be observed that 10 cc. of antistreptococcus serum were injected on February 6 and again on February 7.

The great improvement in the patient's condition on the morning after the first injection, given when she was comatose, is very remarkable. It is evident that she was then suffering from severe septic intoxication, and as the action of the serum consists in preventing further increase of the number of cocci in the blood, rather than in neutralising toxin already manufactured, it would seem that the improvement which followed the use of the serum in this case was *post* and not *propter*, especially as the amount injected was small and was not administered until the disease was so far advanced that the patient was suffering more from the effects of poisonous material already secreted (or excreted) by the microbes than from the presence of those organisms themselves. It is, nevertheless, just possible that the serum turned the scale in the patient's favour by lessening to some extent the multiplication of the germs, and therefore the manufacture of fresh toxin, and so giving the eliminative organs an opportunity of diminishing the amount of poisonous matter in the economy. Although the patient appeared better after the second injection of serum, it is difficult to say whether this was due to the serum or to the sleep induced by the morphia administered at the same time. The patient strongly resisted the injection of serum and, as it was uncertain whether any real good had resulted from it, no further trial of it was made ; moreover, the condition of the patient was never again so desperate as to demand any but ordinary measures.

No local uterine treatment was employed at any time after the initial rigor ; the mode of onset of the disease showed that the patient was suffering entirely from organisms already present in the blood, and local measures, even if adopted at the outset, would, the writer contends, have proved futile.

The joints were treated with warm fomentations and the application of equal parts of glycerine and extract of belladonna during the acute stage ; when all inflammation had subsided, by massage and forced movements.

REVIEWS.

A TEXT-BOOK OF GYNÆCOLOGY. Edited by CHARLES A. L. REED, A.M., M.D., President of the American Medical Association ; Gynæcologist and Clinical Lecturer on Surgical Diseases of Women at the Cincinnati Hospital, &c., &c. Pp. xxv. and 900, with 356 illustrations by R. J. Hopkins, roy 8vo. London : Henry Kimpton. Half morocco, price 25s. net.

IN the preparation of a text-book which should serve as a working manual for practitioners and students, and embrace the best and most recent approved developments of gynæcology, the learned and distinguished editor of this work has entrusted the cognate branches of medical science to specialists, not always, in the strict sense of the term, gynæcologists. In this way for the most part, if not entirely, pathology has been left to the care of such experts as Professors Herzog of Chicago, Johnson of Montreal, Martin of Cleveland, and Rothrock of Minnesota. Ravogli of Cincinnati writes on skin affections ; Hare of Philadelphia on therapeutics ; and Mayo Robson on recto-vaginal fistula. Altogether Dr. Reed has been fortunate in securing the collaboration of thirty writers of acknowledged reputation in connection with the subjects of which they treat.

The work, nevertheless, is by no means a mere aggregation of monographs, for though many chapters are based on contributions from several writers, the text has been rendered consecutive, systematic and homogeneous by the editor, to whom indeed we are indebted for more than one-third of the whole.

A few prolegomena are followed by four chapters devoted to the general ætiology, pathology, and therapeutics of gynæcology. Diagnosis is discussed mainly by Potter of Buffalo, and sepsis, antiseptis, shock, hæmorrhage, and hæmostasis by the editor. We notice that the sound is said to be rarely required for diagnosis and no longer used by the experienced gynæcologist to reposit a displaced womb; that dilatation is to be surrounded by all the precautions demanded by a formidable procedure; that the tenaculum or volsella is to be dipped in pure carbolic acid before use. Formalin, not here alluded to, is afterwards mentioned with approval in connection with Hofmeier's method of sterilising catgut, and also for the palliative treatment of carcinoma. The value of peroxide of hydrogen as a disinfectant of exposed tissue, and in Schatz' method of hand disinfection, as modified by Warren of Boston, is pointed out, but here, as later on (by Mann), much stress is laid on the advantages of operating in rubber gloves.

In the next chapter on anæsthesia by Hare, the editor makes some remarks on anæsthesia by cocaine, alcohol, and hypnosis. Lumbar anæsthesia by cocaine is said to be induced in ten or twelve minutes, to last from one to three hours, and not to have been accredited with any fatalities, but we know that the anæsthesia sometimes cannot be induced at all, and that at least six deaths have been attributed to this method of narcosis.

Abdominal section is next discussed and a detailed account given of the various incisions employed, the principle now generally adopted being to open the peritoneal cavity directly over the organ to be dealt with; the laminated suture is recommended for closing the wound except when drainage is required; the great danger of hyper-catharsis before operation is noted.

After this the general arrangement of the book is to deal with the malformations, injuries, infections, inflammations, displacement, neoplasms, of the different parts in their

anatomical order, from the pudenda to the broad ligament ; Cæsarean section being dealt with by Murdoch Cameron in connection with the uterus, and ectopic gestation by McMurtry ; after the ovary, ovarian pregnancy is recognised without any allusion to van Tussenbroek's case ; two chapters are then devoted to menstruation and its disorders (Millikin), three to the female urinary organs, including the examination of the bladder by the Pawlik-Kelly method and operations on the kidneys (Harris), and three to the rectum (Gant). A short chapter by Dercum on hysteria and neurasthenia in connection with pelvic disease, concludes the work.

The pathology throughout is good ; the various congenital malformations are admirably treated by Ballantyne, who attributes them to the action of germs and toxines upon the tissues in the course of development. The bacteriology of the generative organs is from the pen of Japp Sinclair, but the individual infections are separately dealt with by the Editor ; tuberculosis, except as affecting the kidneys and rectum, being entrusted to the efficient care of Whitacre.

As of exceptional interest and a good example of graphic description we would draw attention to the account of "elytro-hysterectomy"—Byrne's operation for removing the whole of the uterus, except a thin shell at the fundus, with an electric knife—of which it is said, "of the various operations for the removal of the uterus (for carcinoma) none are more effective, and certainly none are followed by more satisfactory results, than the brilliant procedure of Byrne as practised by himself."

Salpingitis is particularly well discussed, especially as regards its differential diagnosis, and a remarkable description is inserted of a laparo-salpingectomy successfully performed in 1784, at Sarepta in Astrakan, by Seydell, who, finding drainage insufficient, sucked out the abdominal wound himself four times a-day.

In connection with injuries to the pelvic floor, puerperal sepsis, Cæsarean section and ectopic gestation, a good deal is included that might be held to belong more properly to

the field of obstetric surgery, and which nevertheless could hardly be left out of a complete Text-book of Gynæcology, but such a work might also have been expected to devote more space to the pessary as a means of treating uterine displacements and to the surgical treatment of prolapse, and to the various degenerations to which myomata of the uterus are liable.

We should also have expected a more generous appreciation of the good work that has been done, particularly in America, by the treatment of gynæcological diseases in the insane ; at the same time we absolutely agree with Dercum's dictum that the surgeon has no option but to operate for surgical indications only.

The preparation of such a work by anyone actively engaged in hospital and private practice, and also in teaching, is a monument of industry, and we are not surprised to find some errors in the text. We wish they had been less important, as in more than one instance they completely alter the sense intended to be conveyed (*e.g.*, p. 115 "asepsis" for sepsis). We can hardly believe that Dr. Foster, who writes upon the nomenclature of gynæcology, would approve of the use of "foetuses" as a plural form, or of "endocervium" for the cervical canal, and we must deprecate the practice, too general in many chapters, of omitting from the references not only the date, but even the volume and page of the periodical quoted from ; the matter is not much improved if the reference takes the form "*Medicinische Woche.*, 1899," nor if, as in other instances, the author's name is misspelt. The well known abbreviations of the Surgeon-General's catalogue for the titles of the periodicals, would have given ample room for the insertion of date, volume, and page. The printing is otherwise admirable, and the illustrations, mostly original, if owing something to the imagination, are perhaps not the less instructive on that account.

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JULY 11, 1901.

J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT.
IN THE CHAIR.

THE PRESIDENT drew attention to a number of interesting specimens brought together by Dr. Macnaughton-Jones, and exhibited in reference to Dr. Noble's paper. The collection included tumours which had undergone calcareous, cystic, mucoid, and teleangiectatic degenerations, others which were entirely œdematous, or into which hæmorrhage had taken place, several complicating pregnancy, and several in which, in addition to the myoma, a carcinoma, sarcoma, or cysto-sarcoma was present.

Specimens were lent by the President, Dr. Stanmore Bishop, Dr. William Duncan, Dr. Handfield Jones, Dr. Mayo Robson, Dr. Macnaughton-Jones, Master of the Rotunda (Dr. Purefoy), Dr. Herbert Snow, Mr. Bowreman Jessett, Mrs. Scharlieb, Mr. Targett, Dr. Giles and Mr. George Cheatle.

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THE COMPLICATIONS AND DEGENERATIONS OF FIBROID TUMORS OF THE UTERUS AS BEARING UPON THE TREATMENT OF THESE GROWTHS. BY CHARLES P. NOBLE, M.D., Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia.

THE traditional teaching concerning fibromyomata of the uterus is, that these tumors are of frequent occurrence; that only exceptionally do they produce grave symptoms; that after the menopause they tend to undergo a spontaneous cure; and that only in the rarest instances do they cause death. This teaching, while traditional, has never been universally accepted. It has been combated from time to time by those having to deal with grave conditions arising from the presence of fibroid tumors. As early as 1853 the classical essay of Washington L. Atlee on "The Surgical Treatment of Certain Fibrous Tumors of the Uterus heretofore considered beyond the Resources of Art" appeared.¹ This essay largely consists of a description of the serious conditions resulting from fibroid tumors, together with an earnest plea for their radical removal. Until recently hæmorrhage has been considered the chief, if not the only danger arising from them. It is now appreciated that patients suffering from fibroid tumors are subjected to many other risks that arise from the degenerations and complications of these growths. Necrosis, myxomatous and cystic degeneration of the tumour, calcareous infiltration, associated malignant disease of the body of the uterus or of the cervix, and complicating diseases of the uterine appendages, such as ovarian tumors, pyosalpinx, salpingitis, &c., not to mention the more remote effects upon the alimentary tract, the cardio-vascular, urinary, and nervous systems, which may cause death or continued invalidism of such patients, independent of the natural history of the tumor itself.

In estimating the risks of patients suffering from fibroid

¹ *Trans. Amer. Med. Assoc.*, 1853, vol. vi., p. 547.

tumors the profession has been too prone to be guided by the teachings of the past, rather than by the results of the more careful observations of the present. The chief purpose of this paper is to present in detail the nature and complications of fibroid tumors as they are met with in actual practice. It is well known that fibroid tumors of the uterus are frequently complicated by other conditions, but accurate tables of considerable numbers of cases with their complications are conspicuous by their absence. As a contribution to the study of fibroid tumors, I wish to report 218 cases, in which various operations have been performed. This report includes all cases of operation for fibroid tumors in my practice. An analysis of this group of cases, showing the degenerations in the tumors and the various complications encountered, should give a more satisfactory picture of the condition of patients suffering from fibromyomata of the uterus than any merely theoretical consideration of the subject.

It will at once be apparent from the accompanying analysis that fibroid tumors do not occur in actual practice as an isolated, uncomplicated, morbid condition. On the contrary, patients suffering from these tumors, as we meet in the consulting room and in the hospital, are found very frequently to have in addition serious complicating diseases, not only of the uterus and of its appendages, but also various morbid conditions in the body at large.

In the 218 patients operated upon for fibromyoma uteri to May 24, 1901, the following complications were encountered :—

Appendicitis	...	...	...	...	...	...	4
Bilateral hydrosalpinx	...	...	...	...	...	...	8
Unilateral hydrosalpinx...	...	...	...	...	...	...	5
Hæmatosalpinx	...	...	...	...	...	...	1
Calcareous infiltration	...	...	...	...	...	...	5
Cystic degeneration of ovaries	...	...	...	...	...	...	2
Ovarian cyst with twisted pedicle	...	...	...	...	...	...	1
Ovarian cyst, bilateral	...	...	...	...	...	...	2
Ovarian cyst, unilateral	...	...	...	...	...	...	19

Ovarian cyst, suppurating	...	...	...	...	...	1
Bilateral dermoid cyst ; umbilical hernia	...	...	...	...	...	1
Dermoid cyst suppurating, sinus through abdominal wall	...	...	...	...	...	1
Dermoid cyst with twisted pedicle	...	...	...	...	...	1
Intraligamentous development of fibroid	...	...	...	...	...	10
Retroversion of uterus	...	...	...	...	...	3
Procidentia of uterus	...	...	...	...	...	3
Parovarian cyst	...	...	...	...	...	2
Ectopic pregnancy	...	...	...	...	...	3
Papillary carcinoma of both ovaries	...	...	...	...	...	1
Abscess of ovary	...	...	...	...	...	1
Pyosalpinx, bilateral	...	...	...	...	...	5
Pyosalpinx, unilateral	...	...	...	...	...	3
Salpingitis, bilateral	...	...	...	...	...	2
Salpingitis, unilateral	...	...	...	...	...	5
Myxomatous degeneration of tumor	...	...	...	...	...	5
Cystic degeneration of tumor	...	...	...	...	...	5
Necrosis of tumor	...	...	...	...	...	12
Adeno-carcinoma of body of the uterus	...	...	...	...	...	3
Epithelioma of cervix uteri	...	...	...	...	...	4
Sarcoma	...	...	...	...	...	2
Syncytioma	...	...	...	...	...	1

In estimating the risks encountered by patients suffering from fibroid tumour, we shall consider first those growing out of the complications themselves, which we shall classify in three groups. *First*, those which would lead to a fatal result ; *second*, those which would threaten the life of the patient ; and *third*, those which would involve more or less invalidism.

(1) Of complications which would lead to the death of the patient are the following :—

Ovarian cyst with twisted pedicle	...	...	...	...	...	1
Ovarian cyst, bilateral	...	...	...	...	...	2
Ovarian cyst, unilateral...	...	...	...	...	...	19
Ovarian cyst, suppurating	...	...	...	...	...	1
Bilateral dermoid cyst ; umbilical hernia	...	...	...	...	...	1
Dermoid cyst suppurating, sinus through abdominal wall	...	...	...	...	...	1
Dermoid cyst with twisted pedicle	...	...	...	...	...	1
Ectopic pregnancy	...	...	...	...	...	3
Papillary carcinoma of both ovaries	...	...	...	...	...	1
Abscess of ovary	...	...	...	...	...	1
Pyosalpinx, bilateral	...	...	...	...	...	5

Pyosalpinx, unilateral	3
Cystic degeneration of tumor	5
Necrosis of tumor	12
Adeno-carcinoma of body of the uterus	3
Epithelioma of cervix uteri	4
Sarcoma... ..	2
Syncytioma	1

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To these must be added three cases of cancer of the cervix complicating fibroids, in which hysterectomy was not performed, reported in 1897.¹

Also one case of epithelioma of the cervix complicating a fibroid tumor of the uterus, seen in consultation with Dr. W. Wayne Babcock in 1899, in which the patient's general condition forbade operation. Also a fifth case from my hospital service, reported by Dr. Babcock.²

This is Case 2 of Dr. Babcock's report, in which a fibroid tumor of the uterus was complicated by epithelioma of the cervix, making altogether twelve cases of cancer complicating fibroid tumor which have been encountered. Of these fatal degenerations and complications of uterine fibroids, making a total of seventy-one, thirty-two are of the uterus or tumor, and thirty-nine are of the appendages.

(2) Of complications threatening the life of the patient are the following :—

Appendicitis	4
Bilateral hydrosalpinx	8
Unilateral hydrosalpinx... ..	5
Hæmatosalpinx	1
Parovarian cyst	3
Myxomatous degeneration of the tumour	2

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¹ Noble, Charles P., "The Development and Present Status of Hysterectomy for Fibromyomata," *Trans. Amer. Gynec. Soc.*, 1897, p. 38; *British Gynec. Jour.*, 1897, vol. xiii., p. 48.

² *American Gynecological and Obstetrical Journal*, 1898, vol. xiii., p. 402.

(3) Of conditions leading to more or less permanent invalidism of the patient are the following :—

Calcareous infiltration	5
Cystic degeneration of ovaries	2
Intraligamentous development of fibroid	10
Retroversion of uterus	3
Procidentia of uterus	3
Salpingitis, bilateral	2
Salpingitis, unilateral	5
	—
	30

It is probably a moderate estimate that seventy-eight of these patients would have died of the *complications* of the fibroid tumor had they not been operated upon.

It is difficult to estimate the number of deaths which would have resulted from the symptoms produced by the tumors themselves—deaths due to hemorrhage ; to chronic anemia, leading to degeneration of the heart and kidneys ; to pressure of the tumor upon the ureters and bowels ; to malnutrition induced by the hemorrhages and by the increase of intra-abdominal pressure interfering with the functions of the alimentary canal ; to the lowered vitality of the patients, increasing their liability to contract inter-current diseases ; to septicemia from necrosis of the tumors ; and to thrombosis and embolism through associated phlebitis. To these must be added the risks of pregnancy and parturition when complicated by fibroid tumor. It can hardly be considered as other than moderate if we estimate that fifteen of these patients would have died eventually as a result of the presence of the tumors, independent of the above complications. This would make a total of ninety-three deaths in the 218 cases as a result of the tumors themselves or their complications, a mortality of 42 per cent.

In estimating the number of deaths which would occur from the various complications encountered there may be a difference of opinion as to the probable history of the special complications. It should be pointed out, however,

that this would merely take away a small number from the list of deaths to add it to the list of invalids.

It is impossible to know whether my own experience with the complications of fibroids has been an average one or whether the cases of fibroid tumor coming under my care have been more or less complicated than usual. I am not familiar with similar tables of complications of fibroid tumors based upon a definite number of cases which would afford a basis of comparison. Martin⁴ reports the following complications and degenerations :—

Complications of Fibroid Tumors met with in 205 Cases.

Fatty degeneration of tumor	...	...	...	...	...	7
Calcification of tumor	...	...	...	...	...	3
Suppuration of tumor	...	...	...	...	...	10
Oedema of tumor	...	...	...	...	...	11
Cystic degeneration of tumor	...	...	...	...	...	1
Teleangiectasis of tumor	...	...	...	...	...	3
Sarcoma of tumor	6
Carcinoma of cervix uteri	2
Carcinoma of corpus uteri	7

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It will be noted that he makes no reference to the condition of the appendages, and that thus his table can be compared only in part with my own.

It may be urged with reason that some of the cases included in this table might have been otherwise classified. The cases of cancer and sarcoma of the uterus complicating fibroids and the cases of large ovarian tumors might perfectly well have had a different classification, and in this way the list of complications having a fatal termination would have been decreased. But even allowing for such a difference in classification there can be no doubt that at least a third of the patients would have died as a result of the tumors or their complications.

Some of the more striking complications which have

⁴ Martin, A., "Pathology and Therapeutics of the Diseases of Women," Boston, 1900, p. 268-272.

been encountered will next be considered, in order to illustrate more clearly the nature of the risks of fibromyomata of the uterus.

One undoubted case of SARCOMA of the uterus had the following history: Mrs. G., aged 51, childless, had been in failing health for more than a year. She had had a fibroid tumor of the uterus for years, which had recently taken on renewed growth.

The tumor was the size of a foetal head. Abdominal section, Feb. 2, 1893, revealed a very soft tumor of the uterus, with secondary growths in the left broad ligament. Upon subsequent microscopical examination the tumor was pronounced a sarcoma. The uterus and its appendages were removed by hysterectomy. The patient died after a few months from the rapid development of the secondary sarcoma in the broad ligament and abdomen.⁵

A case of SYNCYTIOMA had the following history:—Mrs. K., aged 31, has had two children and one miscarriage, which occurred between the two labors at term. The youngest child was 30 months old when she consulted me, June 20, 1893. Menstruation was normal until nine months before she came under observation, since which time she had been bleeding almost constantly. She suffered from

⁵ I have seen a second case of undoubted sarcoma of the uterus. This was a case of recurrent spindle-celled sarcoma of the cervix. The first tumor was removed at the Woman's Hospital of Philadelphia, and the second at the Kensington Hospital for Women. Each time when the patient came under observation the tumor was necrotic, making hysterectomy inadvisable, and each time the patient refused radical operation after recovering from removal of the sloughing tumor. This sarcoma was pediculated, and was not associated with a fibroid tumor.

A somewhat doubtful case is that of Mrs. W., operated upon September 19, 1895. A fibroid tumor undergoing degenerative changes was removed, and a clinical diagnosis of sarcomatous degeneration was made. The pathologist reported that this was probable, but that the tumor was too necrotic for a positive diagnosis. The patient died subsequently of disease of the liver, believed to have been a secondary development of the tumor.

pronounced anemia, corresponding with the history of hæmorrhage. On examination, the uterus was found enlarged by a tumor in the fundus. A diagnosis of fibroid tumor with probable cancer of the endometrium was made. A combined vaginal and abdominal hysterectomy was performed on June 29, 1893. A fairly normal convalescence followed. She died early in the December following, about five months after the operation. Death was due to secondary involvement of the left lung, and there were numerous small tumors under the skin scattered over the body. When the specimen was examined after operation, a clinical diagnosis of fibroid tumor of the uterus undergoing sarcomatous change was made. The final report of the pathologist is that the case was one of syncytioma.⁶

The two cases following were OPERATED UPON DURING PREGNANCY :—

(1) Mrs. A., aged 38, nullipara, was pregnant two months. Shortly after becoming pregnant she discovered an abdominal tumor, which on examination proved to be freely movable and pedunculated, very soft to the touch, and was believed to be an ovarian cyst. Abdominal section was performed, December 3, 1894. On delivering the tumor it was found to be a soft fibroid with a slender pedicle, which was injured in the delivery of the tumor. This made the removal of the fibroid preferable to its return, in spite of the complication of pregnancy. The pedicle was ligated and divided. The patient made a good recovery from the operation, but unfortunately aborted. Subsequently she gave birth to a living child.

(2) Mrs. P., aged 37, mother of four children, suffered markedly from pressure symptoms, due to a large rapidly-growing fibromyoma. Pregnancy was suspected. This was believed to add to the indication for hysterectomy, because of the size of the tumor. Hysterectomy was performed, June 20, 1898. Recovery was uninterrupted. Examination of the specimen showed the existence of a twin pregnancy of six weeks.

Of the twelve cases of NECROSIS OF THE TUMOR, six occurred in submucous fibroids or fibroid polypi, the necrosis being due to interference with the circulation by the efforts of the uterus to throw off the tumor. In these cases

⁶ McFarland, Joseph, "A Case of Deciduoma Malignum," *Proc. Pathological Soc. of Phila.*, 1901, vol. iv., p. 86.

the tumors were removed by operation *per vaginam*. Two died: one from embolism resulting from a septic inflammation antedating operation and persisting after it; the other from advanced endocarditis.

Of the six cases of necrosis of the tumor operated upon by abdominal section, all were in bad condition from septic absorption. All would promptly have died from septicemia without operation. Three succumbed to septicemia. One died of embolism of the brain. Of the twelve cases of necrosis, six died and six recovered, showing the extreme gravity of this condition.

A striking illustration of the fact that the MENOPAUSE need not bring relief to a patient suffering from a fibroid tumor is the case of Mrs. C., aged 67, who consulted me for the relief of intolerable bladder symptoms. She had borne one child, now 40 years of age. She suffered constantly from tenesmus of the bladder, which had resisted long-continued treatment in the hands of others. She had suffered from hemorrhage of the uterus from the age of 35 until the menopause was established at 52. Examination showed a multinodular fibroid tumor, the pelvic portion of which had become calcareous. The subsequent investigation of the case proved that, by pressure on the right ureter, the calcareous portion of the fibroid had caused degeneration of the right kidney. Operation was performed, March 6, 1895, at the urgent request of the patient, in spite of a bad prognosis, in the hope that the removal of the tumor might afford an opportunity to relieve the bladder symptoms. She died four days later of suppression of urine.

In this connection and as bearing upon the behavior of fibroid tumors after the MENOPAUSE, reference will be made to the case of a physician's wife, seen in consultation some years ago, who had suffered from the age of 35 to 53 from uterine hemorrhages before the menopause was established. Subsequently her health improved, but she was never a vigorous woman. When about 70 years of age, after a drive on a rough country road, the tumor became necrotic.

An abscess developed, which ruptured into the bowel. A drainage operation was performed, but the patient died of sepsis.

THE DISAPPEARANCE OF FIBROID TUMORS AFTER THE MENOPAUSE AND AFTER LABOR is a part of the classical teaching concerning the life history of these growths. My own experience adds little in support of this teaching. No instance of a fibroid tumor having disappeared after the menopause has come under my notice. In one case, seen fifteen years ago, a fibroid tumor was said to have greatly lessened in size after labour, as compared with its size before pregnancy. No other similar case has come under my observation since. That one having large opportunities for observation should have had this experience indicates that the disappearance of fibroid tumors as a result of the menopause or as a result of pregnancy is not to be expected. Such an occurrence is merely one of the curiosities in the history of these growths.

THE AGES OF THE PATIENTS OPERATED UPON, grouped in decennial periods, were as follows :—

Under 20	1
Between 20 and 30	6
Between 30 and 40	77
Between 40 and 50	76
Between 50 and 60	20
Between 60 and 70	7

The remaining thirty-one cases were operated upon *per vaginam*. In these cases the histories are not complete. One of them was between 50 and 60, and a number between 40 and 50.

From the standpoint of the YOUTH of the patient the following are of decided interest : One, 17 years of age ; one, 22 ; one, 24 ; and one, 26.

The history of the youngest patient is as follows : Miss T., aged 17, began to menstruate at 13. Menstruation was regular for five months. It then ceased for two years, with the exception of two periods. She then menstruated every two or three weeks, and from July, 1890, until

December, 1890, when she consulted me, she had been bleeding constantly. The patient complained of extreme debility from loss of blood. Upon examination a fibroid tumor was found choking the pelvis and extending half-way to the umbilicus. Operation March 23, 1892.

From the standpoint of the AGE of the patient it is of great interest that twenty-one patients, including one operated upon *per vaginam*, were between 50 and 60 years of age, and seven patients between 60 and 70 years of age. The oldest patient was aged 67. It will be observed that over 12 per cent. of the patients were above 50 years of age when their symptoms caused them to seek relief in operation, by which time, according to the classical teaching concerning the life history of fibroid tumors, most of the patients should have regained their health as the result of the influence of the menopause. The teaching that the menopause ensures the symptomatic cure of the patient does not receive much support from these figures.

It is not feasible to give the exact AGE AT WHICH MENSTRUATION CEASED in patients operated upon after the forty-fifth year. A large percentage of them menstruated until they were past fifty, and one as late as the fifty-fifth year. No fact in connection with the history of fibroid tumors is more evident than that the menopause is delayed for from three to ten years.

The relation of fibromyomata to STERILITY is indicated by the fact that of the 218 patients operated upon, only ninety-one had been pregnant. Of the 127 who had not been pregnant, a certain percentage were unmarried. This experience is in accord with the accepted belief that fibromyomata are a cause of sterility.

In the list of complications no mention was made of the question of ADHESIONS. In numerous cases adhesions were a marked feature—intestinal, appendicular and vesical. This was more especially true when the tumor was complicated by salpingitis in its various forms. Adhesions are often the cause of pain, constipation, and disorders of digestion, and a source of added risk at the operation.

Extensive adhesions add definitely to the risks of operation, by increasing the mechanical difficulties encountered.

The relation of fibroid tumors to PHLEBITIS AND EMBOLISM both before and after operation is well recognised. In 1889, before hysterectomy for fibroids was well established, I saw a well-marked case of phlebitis consequent upon inflammatory changes in a fibroid tumor. In 1900 a very striking case of phlebitis and embolism, with death, came under my observation. Mrs. D., aged 46, multipara, when standing upon a ladder working with the arms extended, was suddenly seized with violent pain in the abdomen, followed by collapse and grave peritonitis. After several weeks the peritonitis improved, but was followed by phlebitis involving the veins on the left side of the neck and left axilla. She apparently made a good recovery from this condition, but some weeks later died of embolism of the brain. The peritonitis was due to torsion of a pedunculated fibroid, resulting in necrosis of the tumor.

Another death from embolism was that of a patient operated upon when septic, as a result of sloughing of a fibroid polypus. She died of embolism twelve days after operation, her temperature never having become normal.

PHLEBITIS following operations for fibroids is quite common. The exact pathology of phlebitis is imperfectly understood. It is the tendency of surgeons to attribute all accidents following operation to infection, but in many cases of phlebitis following hysterectomy and myomectomy, the rôle of infection is difficult to prove or to believe. The most prominent characteristic of a series of cases of post-operative phlebitis is that the patients almost, if not without exception, are anemic and prostrated.

The most characteristic symptom of patients suffering from fibromyomata of the uterus is ANEMIA. It is not feasible to give the exact percentage of patients suffering from marked anemia in this group of cases, as many of them were operated upon before the present methods for the study of the blood were in use. A large percentage

were anemic, and some of them in the highest degree. The following case illustrates the degree to which anemia may develop as a result of hemorrhage :—

Miss E., aged 45, was admitted to the hospital January 16, 1901. She was markedly anemic, the skin having a waxen appearance, and her hands, ears, &c., being characteristically translucent. She had been bleeding almost constantly for months. Examination showed a number of fibroid nodules, and also a small tumor of the right ovary. It was evident that the condition of the patient forbade a radical operation. The uterus was curetted on the 19th, with the hope of controlling the uterine bleeding, so that with proper feeding and treatment her blood state could be improved to the point rendering a radical operation feasible. On the 23rd examination of the blood gave the following result : Erythrocytes, 2,325,000; hemaglobin, 10 per cent.; poikilocytosis marked; leucocytosis marked, of the usual type. On February 6, the following : Erythrocytes, 2,760,000; hemaglobin, 35 per cent. On March 4, the following : Erythrocytes, 3,640,000; hemaglobin, 45 per cent. Miss E. was discharged March 6, 1901, with the advice that she should return for a radical operation so soon as her blood condition had somewhat improved. She was again admitted April 2, and on the 4th hysterectomy by supravaginal amputation was performed, the fibroid tumors and the ovarian cyst being removed. The blood examination on the 3rd showed : Erythrocytes, 3,770,000; hæmaglobin, 55 per cent. The examinations of January 23 and April 3 were made with Gower's hemaglobinometer, that of March 4 with Fleischel's instrument, and that of the 6th with the instruments of both Gower and Fleischel. The pathologist's notes concerning the examination of January 23 state that the estimation of the hemaglobin was very difficult because of the excessive hemaglobinemia. The blood was a slightly turbid straw-colored liquid.

After the curettage Miss E. was extremely ill. Her pulse was very feeble, and prostration was extreme. After the hysterectomy she made a good recovery.

It seems hardly credible that a patient could live with such a high grade anemia—only 10 per cent. of hemaglobin. Had the blood-count been made before the curettage was done, it is doubtful whether it would have been undertaken, as the danger of administering ether under such conditions is well recognised.

In others of the graver cases of anemia the result was not so fortunate. The risks of shock, of edema of the lungs and of septic infection, after operation, are all increased in anemic patients.

The attitude of those advocating what they call the conservative plan of treatment of fibroid tumors, but which would more properly be called the expectant mode of treatment, with reference to hemorrhage from fibroids, is difficult to appreciate. They agree that when a patient has become profoundly anemic from hemorrhages, operation is indicated, but oppose operation before that state has been reached. It would seem much more logical to operate early, thus preventing the development of a profound degree of anemia, saving the patient months or years of invalidism, lessening the immediate risks of the operation itself, and very greatly shortening the period of convalescence after operation. When anemia has become profound and of long duration, at times it is incurable, and usually appropriate treatment must be continued many months to bring about a cure. The secondary effects of chronic anemia are also difficult to cure, and should therefore be avoided. This is especially true of the effect upon the nervous system.

The progressive anemia often engendered by fibromyomata of the uterus has a distinct bearing upon the operative mortality. In certain cases in which a palliative line of treatment has been followed, it may become imperative to operate, despite the transgression of Mikulicz' rule: Never to operate in any case when the hemaglobin is below 30 per cent.

A certain proportion of deaths also results from thrombi formed in the vessels of the tumor, which, becoming detached, produce emboli and infection in the lungs and other viscera. Besides these alterations in the blood, degenerative changes in the form of fatty degeneration, brown atrophy, hyaline degeneration, and atheroma, have been found in the walls of the heart and blood vessels in numerous cases. Over fifteen years ago, Hofmeier¹ collected seven

¹ Hofmeier, M., *Zur Lehre vom Shock (Ueber Erkrankungen der Circulations-Organen bei Unterleibsgeschwülsten)*, *Zeits. für Geburtsh. u. Gynäk.*, 1885, Band xi., p. 366.

cases of uterine fibromyoma, in one of which sudden death resulted from pulmonary embolism, in two from a high grade fatty degeneration, and in four from brown atrophy of the heart muscle.

In a number of my own fatal cases the immediate cause of death was the rapid onset of pulmonary edema. Whether in those cases the pulmonary edema was an extension of an embolic process in the lungs, or from myocardial degeneration, I am unable to say, as it was difficult to secure thorough *post-mortem* examinations.

CARCINOMA and FIBROMA being such common diseases, it would be expected that they should frequently co-exist in the uterus. In proportion to its relative frequency, the adeno-carcinoma of the uterine body is more often in this association than is the more common squamous epithelioma of the cervix. That the irritative action of a fibroma should predispose to the development of the adeno-carcinoma would seem slightly less plausible than that laceration of the cervix should predispose to that of epithelioma of the cervix. Clinical experience and embryological studies both refute the idea, however, that the benign tumor may undergo carcinomatous transformation. Indeed, even the penetration of the capsule of the fibroid by an adjacent carcinoma is extremely rare. In two of my cases the carcinoma had reached the capsule, but there was no tendency to penetrate the substance of the fibromyoma. Von Recklinghausen observed several cases of adeno-myomata in which the glandular tissue present seemed to have acquired malignant properties.

Sarcomatous degeneration of fibroids would seem to be possible, yet the close histological similarity between fibro- and spindle-celled sarcoma and fibromyoma renders it difficult for the pathologist to determine whether a given growth has been malignant from its inception or has been the result of a sarcomatous degeneration in a fibroid. It is generally accepted, however, that the benign tumor may undergo this transformation.

Of the cases of epithelioma of the cervix complicating fibroid tumor of the uterus, one is of special interest, as it occurred in a virgin. Miss H., aged 54, was admitted to the hospital March 26, 1901. She had been in failing health for a year, the prominent symptoms being increased menstrual flow, dyspeptic symptoms, increasing debility, inability to retain urine, and neurasthenia. On examination there was found an epithelioma of the cervix complicating multiple fibroid tumors of the uterus. The epithelioma was first curetted and burned away. Total hysterectomy was performed on the 28th. An enlarged gland was found over the iliac vessels. This was removed, and under microscopical examination proved to be a secondary squamous celled epithelioma. A good recovery followed, with the disappearance of all symptoms.

According to the classical teaching concerning the history of fibroid tumors, a fatal termination is very rare. At the present time it is not difficult to understand why this is true, because when the condition of patients suffering from fibroid tumors becomes grave, whether from hemorrhage, repeated attacks of peritonitis, disturbances of the digestive organs, of the vascular system, or the urinary organs, they are submitted to operation. Patients operated upon when in bad condition swell the mortality of operations, and also greatly increase the list of those making poor recoveries after operation. Doubtless in the future the number of cases dying directly as a result of fibroid tumors or their complications will be less than in the past, because in a larger percentage an early operation will be performed. Nevertheless, numerous cases of death from fibroid tumors can be found in gynæcological literature. Bishop⁸ reports thirty-seven fatal cases which he has collected.

If the cases of fibroid tumor of the uterus which have come under my observation can be taken as representing these growths as a class, it is a fair conclusion that death

⁸ Bishop, E. S., "Uterine Fibromyomata," 1901, pp. 27-31.
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will result in more than one-third of the cases. In more than one-fourth of the cases the result will be chronic invalidism. This percentage of invalids would be increased by the percentage of cases ultimately ending in death, so that from one-half to two-thirds of the patients having fibroid tumors, which have come under my observation, have been confirmed invalids. Of the remainder, about one-third, but few have not been incommoded to a considerable degree as a result of the presence of the tumors. The percentage of cases in which tumors have been found more or less accidentally is quite small. This estimate of the gravity of fibroid tumors is radically opposed to the classical teaching upon this point.

It is gratifying to contrast the results which can be secured through the resources of modern gynecology with those which follow an expectant plan of treatment. The mortality of hysterectomy and myomectomy is variously estimated at from 2 to 10 per cent. In a series of 345 cases published by myself in 1897,⁹ the mortality of hysterectomy by supravaginal amputation in the hands of five American gynecologists was 4.9 per cent.; in a series of 100 total hysterectomies, the mortality was 10 per cent. In a collection by Olshaussen¹⁰ of 806 cases of supravaginal amputation the mortality was 5.6 per cent., contrasted with a mortality of 9.6 per cent. in a collection of 520 cases of total extirpation. According to Bishop (*l. c.*) Mr. Christopher Martin reports thirty-five cases of total extirpation, with a mortality of 2.8 per cent.; Doyen, sixty cases, with a mortality of 2.6 per cent.; A. Martin, eighty-one cases, with a mortality of 7.4 per cent. The advocates of vaginal hysterectomy for fibroid tumors report equally as good,

⁹ Noble, Charles P., "The Development and the Present Status of Hysterectomy for Fibromyomata," *Trans. Amer. Gynec. Soc.*, 1897, vol. xxii., p. 59.

¹⁰ Olshaussen, R., "Comparison of Results in Supravaginal Amputation and in Total Extirpation of the Uterus," *Veit's Handbuch der Gynäkologie*, 1897, p. 713.

if not better results. The results of myomectomy indicate that enucleation is a more dangerous operation than hysterectomy, although, in the hands of trained men, the results are excellent. Kelly¹¹ reports ninety-seven myomectomies, with four deaths. This is to be contrasted with 307 hysteromyomectomies, with fifteen deaths, or a mortality of 4·8 per cent. reported in 1900. MacMonagle¹² reports sixty-five cases of myomectomy, with no death.

From these reports the estimate that the mortality of hysterectomy and myomectomy varies from 2 to 10 per cent., depending upon the gravity of the cases, upon the operator, and upon the environment in which the operations are done, is quite justified.

We are now able to contrast the mortality of fibroid tumors, including that of their degenerations and complications, with the mortality of operation—upwards of 33·3 per cent., with less than 10 per cent. ; also the morbidity incident to the history of fibroid tumors as compared with that which follows operation, in which the comparison is very much in favour of operation. From all the facts presented, the conclusion is inevitable that the proper treatment of fibroid tumors of the uterus is their early removal. Early operation not only greatly lessens the mortality, but what is of more importance, it saves the long period of invalidism, which is otherwise unavoidable.

Believing that the best treatment of fibroid tumors in general is their early removal, the question remains whether there are no exceptions to this rule. The best answer to this is, that each case must be decided upon its merits. It is my individual experience that small multinodular subperitoneal fibroids in women of 40 years of age or more are the least apt to grow and to cause serious symptoms. Conversely, submucous and intramural fibroids in younger

¹¹ Kelly, H. A., "Abdominal Myomectomy," *Trans. Amer. Gynec. Soc.*, 1898, vol. xxiii., p. 223 ; and *ibid.*, 1900, vol. xxv., p. 213.

¹² MacMonagle, Beverly, *Private Communication*, December 29, 1898.

women are the most apt to develop and to cause serious trouble. It has been my experience to meet with but few fibroids which were not producing symptoms, and it is, therefore, my belief that the percentage of cases is small in which operation is not more advisable than expectancy.

Mr. BOWREMAN JESSETT having alluded to the indebtedness of the Society to Dr. Noble for his admirable address, enhanced by his having come to this country to deliver it, said that he would not by any means advocate the removal of all myomatous tumours, but he thought that the excessive conservatism of some leading obstetricians was detrimental. Four years ago he curetted a uterus, and material taken from the fundus proved to be carcinomatous. He removed the uterus, and the growth had not since recurred. In that instance the patient had suffered from successive hæmorrhages due to the presence of myomata for two or three years, and yet had been assured, or at any rate, encouraged to believe, by more than one obstetrician in a leading position, that the tumours would disappear at the menopause. He thought that the low mortality after operations for myomata, in skilled hands—less than 5 per cent.—was partly due to the late Mr. Lawson Tait, inasmuch as he first condemned the indiscriminate use of opium, and advocated the administration of an aperient two days after operation. With regard to the complications of myomata, he had only once seen appendicitis as such, but had often known it closely simulate ovaritis. A patient was sent to him suffering from acute pain in the right iliac region, due presumably to ovarian irritation. The pain had been persistent for two or three months. He suggested appendicitis as the cause, operated, found the appendix acutely bent upon itself, and firmly adherent to the Fallopian tube. He removed both structures, and the patient made an excellent recovery. In a second case a parovarian cyst and carcinoma of the uterus were superadded to the myoma. Mr. Jessett removed both cyst and uterus without difficulty. In a third, double hæmatosalpinx was present, and an operation performed was rendered difficult by adhesions.

In each case recovery was complete. He could not agree with Dr. Noble as to the rarity of sarcoma. He had at least four specimens, two of which were then before the Society, which showed the presence of sarcomatous cells, but whether as the result of degeneration in the myoma or of independent origin he was not prepared to say. On the other hand, he had not met with more than two or three cases of carcinoma, and was inclined to think that when present with myoma there was no relationship between them. The co-existence of pregnancy might give rise to serious difficulty. On one occasion he believed a woman, in whom he found two large fibroids, to be pregnant, and advised the postponement of active interference. Three weeks later the patient was taken suddenly ill, had a severe rigor, and appeared in great danger. He performed hysterectomy, and removed the two fibroids and a foetus which he found present. From an examination of the specimen, which was before the Society with two others of a similar nature, the impossibility of a safe delivery at term would be manifest. The three patients from whom these had been severally removed had each made an uninterrupted recovery. He had no doubt, however, that fibroids did decrease in size after parturition. When interference was necessary, he regarded the removal of the uterus as preferable to the induction of abortion. The effect of the menopause on fibroids had been worn threadbare, sometimes it was followed by a decrease, in others by a marked increase in the size of the tumour.

Two points which sometimes determined the advisability of operation were the social position of the woman and the situation of the tumour. A tumour might incapacitate a poor woman from obtaining a livelihood, and consequently call for operation, whereas it might only occasion her wealthier sister slight inconvenience. Subperitoneal fibroids grew less quickly, and caused less urgent symptoms than those of submucous or intra-mural origin, and therefore rendered operative interference less frequently necessary. When, however, severe hæmorrhage occurred, the patient became anæmic and

lost strength or sepsis supervened, operation should be resorted to as early as possible.

Dr. MACNAUGHTON-JONES said that the degenerations and associated complications of uterine myomata was the turning point upon which future practice would in great measure depend. The majority of the specimens shown at the various Societies were presented merely as proofs of the operator's dexterity, and no doubt were interesting from their size, or from the point of view of technique; but numbers had been exhibited unopened, and unaccompanied by any report as to the pathological nature of the growth. Innumerable valuable specimens had thus been destroyed, the preservation and scientific examination of which would have materially altered the view which had been taken with regard to the treatment of myomata. He had the museums of some of the largest London hospitals searched with reference to the subject, and also the museum of the College of Surgeons of England. In the museum of the College of Surgeons there are in all 47 specimens marked definitely as fibrous tumours of the uterus. Of these, 33 are described as having undergone ulceration, degeneration, or having been complicated by adhesions, pregnancy, or ovarian tumours as follows: Pressure on uterus, 3; calcification, 7; ulceration of the tumour, 8; ulceration of the vagina, 2; cystic degeneration, 5; complicated by adnexal disease, 4; myomata seriously complicating pregnancy, 5.

In St. Bartholomew's Hospital Museum there were examples of the following degenerations and complications: Cystic degeneration, 3; calcification, 2; myomata complicated with disease of the adnexa, 5; myoma with cancer, 1; degenerating myoma with cavity containing serous fluid, 1.

In University College Hospital Museum there were the following: Sloughing myoma, 1; fungoid degeneration with ulceration, 1; suppurating myoma with calcareous degeneration, 1; calcareous degeneration with adnexal complications, 2; calcareous degeneration alone, 5.

In the Westminster Hospital Museum there is 1 specimen of calcareous degeneration.

In St. George's Hospital Museum there are 4 specimens of calcareous degeneration of myomata, 2 of myomata complicated with pregnancy, 1 of myxomatous degeneration, and 1 of fibro-cystic degeneration.

In King's College Hospital Museum there were none. Mr. Cheatle had kindly lent him one of carcinoma and myoma.

In St. Mary's Hospital Museum were 6 specimens before the Society.

Those from the Cancer Hospital were also before the Society, 10 in number (Mr. Jessett's).

Considering the number of cases which pass through these hospitals, the inference was clear that a huge mass of material must have passed unobserved or unrecorded.

He strongly urged that all specimens exhibited should be accompanied by a report, setting forth not only the pathological characteristics of the tumour itself, but also any adnexal or other complications that may have been associated with it. Gynæcologists would then have definite and reliable information to guide them. Few gynæcologists now maintained that the danger from a myoma was lessened by the menopause. Among the specimens before the Society was a tumour which he had removed from a woman who suffered so profoundly from anæmia, that it was with great apprehension he had decided to operate upon her. The tumour, a multiple myoma, which weighed 8 lbs., had undergone mucoid degeneration. Rapid increase in size had only set in after the menopause. The patient made an uninterrupted recovery. Another important point, which had not been sufficiently elicited by Dr. Charles Noble, was the distinct effect which the presence of a myoma produced upon the mentalisation of a woman at the menopause. It was a point upon which psychologists were agreed, and he had himself seen two or three instances in which a myoma was complicated by actual dementia, and one by mania at the climateric. Deleterious mental effects resulted both from the constant introspection induced by presence of the tumour, and from

the constitutional and other conditions, including profound anæmia, referred to by Dr. Noble.

Pain in walking or on taking exercise, leading to deterioration of the general health, constituted another serious consequence of myoma. A patient under Dr. Macnaughton-Jones' care, had such pain in the hip, that a strong suspicion of joint disease was entertained. A myoma was discovered, and removed. At the operation an adeno-myomatous ovary was found jammed down on the nerves, accounting for the pain and lameness. The latter tumour, which was on the table, so closely resembled a malignant growth in its characteristics, that a special committee had been appointed to investigate it. The decision arrived at was that it was an adeno-myoma.

A very important consideration was the frequency with which errors in diagnosis were made by the most experienced gynaecologists. Sarcomatous and carcinomatous ovaries had often been mistaken for myomatous tumours, and, under the impression that the tumour was harmless, interference had been postponed until operation had become impracticable, or possibly till death had intervened to settle the question. Dr. Noble had said that the penetration of the capsule of a fibroid by adjacent carcinoma was very rare. On the table was a specimen of his (Dr. Macnaughton-Jones') in which that invasion was manifested. There was a distinct passing in of the carcinomatous tissue into the myomatous growth. While admitting that the condition of sarcomatous degeneration did occur, he held that it was very rare.

In short, the crucial point was no longer what percentages could be brought forward by operators to show their skill and the ease with which such tumours can be removed. These were matters of history. What had to be decided was the attitude which gynaecologists should adopt in reference to the treatment of these growths in consequence of the fact which had now been definitely established, that many of the tumours contained in themselves or in their complications, the inherent elements of death, or at all events of invalidism, misery, or it might be of torture, rendering the woman useless

to herself, to her family, and to society. Such a woman was an opprobrium to the surgical art.

Mrs. SCHARLIEB believed that a certain number of fibromyomata did decrease in size at the menopause, yet waiting for that event, and the very problematical benefit produced by it, involved serious risks. In this connection she quoted the case of a lady, considerably over 50 years of age, with an apparently quiescent myoma reaching to the level of the umbilicus, who had consulted her six months or more previously. The patient had passed the menopause, and was in a fair state of health. She promised to return in a short while, but failed to do so. Recently she had an urgent summons to attend her, and found her suffering from pleurisy, thrombosis of both femoral veins, and severe abdominal pain and sickness. Her pulse was rapid, and her temperature 102 to 105 degrees. Her whole condition indicated that there was considerable septic absorption, and was such as to render immediate surgical relief hardly practicable. After the lapse of a month her condition had somewhat improved, and Mrs. Scharlieb removed the myoma, which contained several cavities filled with offensive fluid. The patient made a tedious though complete recovery, and Mrs. Scharlieb regretted she had not advised operation when first consulted. She noticed that the youngest patient in Dr. Noble's series was 17 years of age. She had, with Mrs. Stanley Boyd's assistance, removed a tumour from the anterior wall of the uterus of a girl aged 15. They were able to bring the edges of the incision of the uterine muscle together, and leave the patient with uterus, ovaries, and tubes complete. Referring to the relative frequency of sarcomatous and carcinomatous degeneration, sarcomatous cells were inherently more likely to replace those of a fibro-myoma, and she had seen several such cases, whereas she had seen only one case in which a fibro-myoma had been invaded by carcinoma.

Mrs. STANLEY BOYD referred to the great difficulty of determining the original nature of a tumour said to have undergone sarcomatous degeneration, especially in hospital

patients who usually came with a tumour already large. For example, a patient, aged 50, recently came under her observation with a large tumour producing severe hæmorrhage. It first became apparent six months after the menopause. From the rapidity of growth it was suspected to be of a sarcomatous nature, and such it proved to be. It would be difficult to say, however, whether such a tumour was a sarcoma *ab initio*, or a fibroid which had undergone sarcomatous degeneration and rapid enlargement. Curetting she regarded as an extremely unsatisfactory method of arresting the hæmorrhage produced by a fibroid. Its effects were never permanent.

Dr. HEYWOOD SMITH thought that fibroids did undoubtedly decrease in size after parturition, though possibly there was an initial increase during pregnancy. He thought the surgeon might with advantage avoid interfering were pregnancy a probable contingency, if the uterus were not much enlarged, or if the tumour were flattened. Curetting should be entirely suppressed in cases of hæmorrhage from fibroid tumours.

Dr. HERBERT SNOW said there were four ways in which a fibroid tumour of the uterus might be related to malignancy, only one of which could properly be spoken of as a process of degeneration. A tumour might be of the soft, solitary, oedematous variety. These began at an early age, were always attended by hypertrophy of the uterus, and in their later stages by an immense secretion of serum, so that the tumour on section lost about one-fourth of its bulk. At the last meeting he had suggested the term "Monoma" for such tumours. They were malignant from their first appearance, inasmuch as, though not primarily sarcomatous, they invariably proved fatal in a comparatively short time, unless removed. Then there were the common, hard, multiple fibroids, which in a few rare instances became myo-sarcomatous. Such a change might truly be spoken of as degeneration. Thirdly, a myoma might be present, merely as a coincidence, in a uterus in which there was a carcinoma. Lastly, a myoma might, by the irritation and congestion

which it produced, induce the development of carcinomatous disease. He agreed with Dr. Noble and Dr. Macnaughton-Jones as to the importance of early operation, and of not relying upon any beneficial results which might follow the menopause. At the same time he would point out that a number of corpulent women of advanced age had multiple myomata which apparently produced no symptoms.

Dr. MACPHERSON LAWRIE believed that fewer operations would be performed for myoma uteri in years to come than at the present time, though in poor women he quite agreed that operative measures might be relatively more frequently necessary. If a fibroid and some other condition co-existed, the latter was not *ipso facto* the result of the former. He had frequently seen a fibroid undergo a marked diminution in size after pregnancy.

Mr. SKENE KEITH pointed out that when a fibroma was present the menopause rarely took place before the age of 54, and he was convinced that its late appearance gave rise to a false impression that the tumours did not diminish in size at this period. By a series of careful observations made before and after pregnancy, he had satisfied himself that tumours did become smaller after parturition. He recommended operation in a certain number of cases, but he held very strongly that the majority of fibroid tumours of the uterus did not require it. The mortality given (2 to 10 per cent.) was a fair one, but implied a risk to which, in ordinary cases, he would not advise a patient to subject herself.

Mr. STANLEY BOYD felt that a large number of the complications which Dr. Noble had mentioned were accidental. The etiology of a certain number was obvious, as for example, necrosis. Again, inflammation might easily spread from the uterus to the Fallopian tubes, endometritis leading to salpingitis, the contents of the tube becoming infected with pyococci or the bacillus coli communis. But such a condition as cancer could hardly be regarded as the result of degenerative changes, it being of epiblastic

origin, while fibro-myomata were of mesoblastic. Though it was conceivable that the irritation produced by a myoma might give rise to cancer, he did not believe that increased vascularity tended to do so, seeing how very much more vascular other regions were without increased liability to such a change. No developmental difficulty presented itself with regard to sarcomatous degeneration. Mesoblastic tissue already growing abnormally might, without violating the laws which embryology seemed to have established, become malignant in nature. He was rather in favour of the view that malignant disease of the cervix, and also appendicitis, were accidental complications, but was open to admit that a causal relationship might possibly exist between these conditions and fibroid tumours. It was a point which would be finally settled only by the accumulation of statistical evidence, such as that brought forward by Dr. Charles Noble. Referring to the specimens which he had placed before the Society that evening, he said one was very remarkable. It had been removed from a woman 45 years of age, of small stature, in proportion to which her abdomen was huge. Œdema reached up to the level of the axilla. The patient could not rise from bed. She only passed $3\frac{1}{2}$ ounces of urine, containing 1·5 per cent. of urea, in the twenty-four hours before operation. He proceeded to perform a hasty laparotomy, and opened the peritoneum before recognising that he had reached it. Twenty-four pints of putrid fluid escaped. He inserted a large drainage tube and closed the abdomen, making the sutures above and below the tube sufficiently tight to keep the edges of the wound closely applied to it; he then carried the free end into a large bottle. Two quarts drained away during the first night, and the swelling rapidly diminished in the course of the next fortnight, while the patient's condition progressively improved. At the end of that time he determined to remove what he believed to be an ovarian cyst. The tumour proved to be a large, very slightly vascular cyst. Other large soft masses occupied the utero-vesical connective tissue interval and both

broad ligaments. Hysterectomy was thus necessitated. The uterus contained in its walls a sloughing but not offensive fibroid. The patient made a good recovery. The character of the large tumour appeared to be unique. Whether the absence of vascularity was the cause of the degeneration he was not prepared to say.

Dr. NOBLE, in reply, said that his paper was essentially an analysis of his own experience. It was not his object to establish that if a woman had a fibroid she usually developed appendicitis, ovarian disease, or cancer *vice versa*. He merely pointed out that in his experience, and in the experience of others who had kept careful records, in a large number of any hundred *consecutive* cases in which fibroid tumours were found, some other disease was also present. In a large percentage of cases, therefore, a fibroid tumour could neither be regarded nor treated as a separate entity. For example, he by no means maintained that there was a causal relationship between fibroid tumours of the uterus and carcinoma. He simply recorded the fact that in twelve women who had passed under his observation the two diseases co-existed, and that consequently the proportion of those having fibroid tumours in whom operation was necessary had been correspondingly increased. Dr. Snow had stated that a large number of corpulent women died having fibroid tumours present which had never produced any symptoms. What had then led to the holding of an autopsy? That there were many such cases, or many in which the tumours had been discovered accidentally, were traditions, the truth of which had not been borne out by experience. He agreed with Mr. Jessett that the term conservative as applied in gynaecological surgery was a misnomer, and thought that the word expectant should be substituted. Correctly speaking, that treatment, whether operative, medicinal, or by rest, was most conservative which best preserved the life or health of the patient. That he had advocated indiscriminate hysterectomy was a misapprehension. Technique was outside the scope of the paper, and he had merely touched upon it, but

he felt that earlier operative interference would in many cases in which hysterectomy was as yet unnecessary, render possible treatment by myomectomy, the patient retaining the uterus and ovaries, while being saved from years of invalidism. As to sarcomatous degeneration, its frequency was a question for pathologists to decide. He had seen one case where the diagnosis was positive, and one in which it was problematical. He referred to the statistics of the Johns Hopkins' Hospital and of certain German clinics in support of the opinion that, with improved methods of examination, true sarcomatous degeneration proved to be very rare. The curette he would use only in cases of marked anæmia. It was palliative at best, and its use involved a definite risk of infection. Respecting the psychical effect of the presence of a tumour, he thought that in a considerable percentage of cases, where fibroids were of long standing and were complicated by anæmia, the mental state of the patient was not sound, but he could only recall two cases in which there was absolute mania.

SPECIMENS SHOWN AT THE MEETING.

The PRESIDENT: Necrobiotic Degeneration with Pregnancy.

Dr. STANMORE BISHOP: Calcareous Degeneration, General Necrosis, Localised Necrobiosis, Cystic Degeneration.

Dr. WILLIAM DUNCAN: Mucoid Degeneration, Cystic Degeneration (2), Cystic Fibroids in Broad Ligament from the Cervix Uteri.

Dr. HANDFIELD JONES (St. Mary's Hospital Museum): Cystic Degeneration, Calcareous Degeneration (3), Myoma with Pregnancy, Adenomatous Cystic Uterus, Polypi and Malignant Ulcer.

Dr. MAYO ROBSON: Specimens of Sarcomatous, Telangiectatic, Cystic, Calcareous, and Suppurative Degeneration.

Dr. MACNAUGHTON-JONES: Necrobiotic and Calcareous Degeneration, Multiple Myoma with Mucoid Degeneration, Fibro-Adenoma of Ovary, complicating Myoma, Myoma with Carcinoma.

Dr. PUREFOY: Telangiectatic Degeneration.

Dr. HERBERT SNOW and Mr. CHARLES RYALL: Uterine Monoma, Malignant Myoma—Soft Œdematous Myoma (2).

Mr. BOWREMAN JESSETT: Cystic and Sarcomatous Degeneration, Sarcomatous Degeneration, Carcinomatous Degeneration, Myoma of Uterus, with Pregnancy (3), (with other Specimens).

Mrs. SCHARLIEB: Sarcomatous Degeneration, Soft, Œdematous, Mucoid Degeneration.

Mr. TARGETT: Cystic Degeneration, Calcareous Degeneration.

Dr. GILES: Cystic Degeneration.

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, OCTOBER 10, 1901.

J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT,
IN THE CHAIR.

EXHIBITION OF SPECIMENS.

SOME UNUSUAL GYNÆCOLOGICAL CASES.

BY H. MACNAUGHTON-JONES, M.D., M.Ch.R.U.I., F.R.C.S.I.

Primary Tuberculous Pyosalpinx.

THE tumour (fig. 1) was removed from a young lady, aged 22. She had been married for two years and a half at the time of operation, and had completed her first pregnancy at the end of the first year of her married life. She was brought to me by Dr. Disney in January, 1901, and complained of considerable and constant pain in the left side, with inability to walk and dyspareunia. The catamenia had been regular and normal. On examination I found the adnexa on the left side much enlarged, softened, and very sensitive. The right were not enlarged, but I could distinctly feel adhesions. I advised immediate operation, either exploration by colpotomy or abdominal coeliotomy, the affected adnexa to be dealt with either by removal or resection, according to circumstances. This was practically agreed to, but operation was subsequently declined by the advice of a distinguished obstetric physician who saw her immediately after I did, and who expressed the hope that by rest and a course at Woodhall Spa, none would be required.

I did not see the patient again until July 10, 1901. I

operated on her the next day. Pain had then been for some time agonising, and she herself demanded operation. The condition of the right adnexa can be judged from the specimen (fig. 1). The Fallopian tube was distended with pus, forming a long crescentic swelling an inch and a half in diameter at its widest part, the surface of the tube being adherent. The right ovary, though fixed by some adhesions, was healthy. A large perimetric cystoma had formed behind the meso-salpinx, between the distended tube, the ovary, and the adjacent viscera. Mr. Targett examined the specimen for me. The following is the conclusion of his report :—

“The external surface of the specimen is covered with thin fibrous adhesions in which many miliary tubercles are embedded. The lumen of the tube is filled with thick caseous pus, and the inner surface is shaggy from ulceration of the mucous membrane. There is very little thickening of the wall of the tube anywhere, and in some parts it is much thinned by distension and ulceration. Microscopical sections of the undilated uterine end of the tube exhibit general thickening of the mucous membrane and infiltration with miliary tubercles. The epithelial lining is for the most part intact.”

This is the second case I have had of primary tuberculosis of the Fallopian tube in a young woman otherwise in perfect health, and without any hereditary history of tuberculous disease. The first, which I elsewhere reported in full,¹ was complicated with hæmatosalpinx. The particulars of this case speak for themselves. The patient made an uninterrupted recovery.

Large Hernia following repeated Cæliotomies—Operation.

This was the largest post-operative hernia I have ever seen. The drawing, which was taken from a photograph,

¹ “Diseases of Women,” Eighth Edition, p. 622. London : Baillière, Tindall, and Cox.

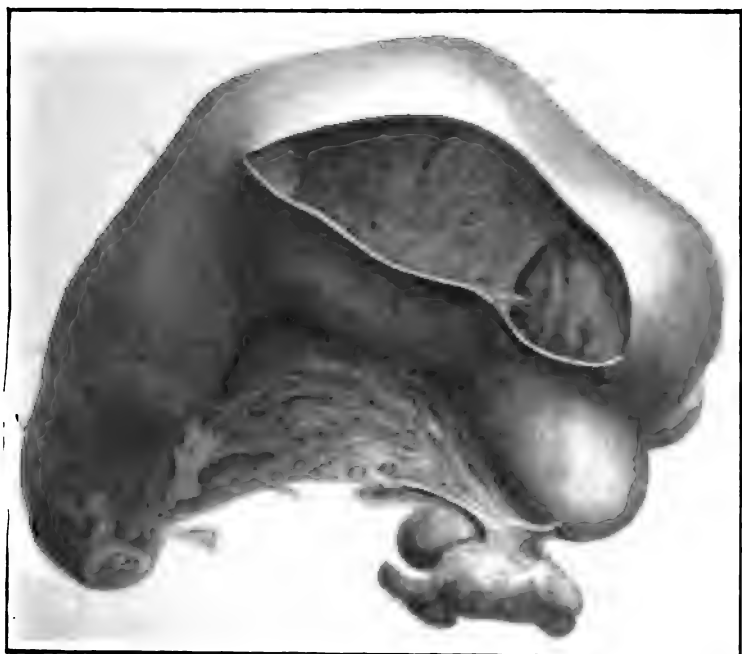


FIG. 1.—Primary tuberculous pyo-salpinx. (Sac opened.)



FIG. 5.



FIG. 6.

Figs. 5 and 6. Fibromyoma of uterus growing from the broad ligament weighing 28½ pounds.—Removal and complete recovery.



Post operative abdominal Hernia.
FIG. 2.—Before operation. (From Photograph.)



FIG. 3.—After operation. (From Photograph.)

gives a fairly good idea of its extent. When I saw the patient in May of the present year the bowel was down in a large sac, which protruded over the pubes, covered only by the integument (figs. 2 and 3). A large space of several inches separated the recti muscles and fascia. The bowel appeared to be adherent in parts to the parietal covering. She had been subject to recurrent attacks of severe pain due to attacks of subacute peritonitis, and had to be confined to bed for several weeks before operation. The old cicatrix extended from a short distance below the umbilicus to about two inches above the pubes. I did not learn until the day of the operation (September 2, 1891) that the patient had undergone three previous operations, and that on the last occasion the abdominal wound had been closed without sutures, the parts having been brought together by adhesive plaster only.

Operation.—I carefully incised the skin (*c c*, fig. 4) in the middle line over the cicatrix, and by a cautious dissection separated it from the bowel, which was immediately subjacent and in parts adherent to it. When I had reflected back the skin to the extent of some three inches at either side (*c'*) dense fascia (*b*) was exposed, continuous with the peritoneum and the sheath of the rectus (*a a*). This fascia also was raised and reflected back, the dissection including a portion of the sheath of the rectus. All bleeding points from adhesions of the bowel were secured. The omentum and bowel were covered with a sterilised napkin wrung out of warm formalin solution, and mattress sutures were then carried from side to side in the following manner:—Two straight ovariectomy needles were attached to a fairly strong silver wire suture, one at either end. The needles were then passed, in a parallel direction, from before backwards through the sheath and inner border of one of the recti muscles, across the middle line, and then from behind forwards through the corresponding structures on the opposite side. Six such sutures were inserted alternately from either side (see fig. 4), and a single

strong wire was passed at the upper and lower angles of the wound. The central sutures were separated, and the napkin readily withdrawn between them. They were then tightened, and the ends twisted and cut close, were buried in the recti muscles. The sheath of the rectus of either side with the muscle and the underlying peritoneum, were thus brought into apposition, leaving a raised flap of fascia

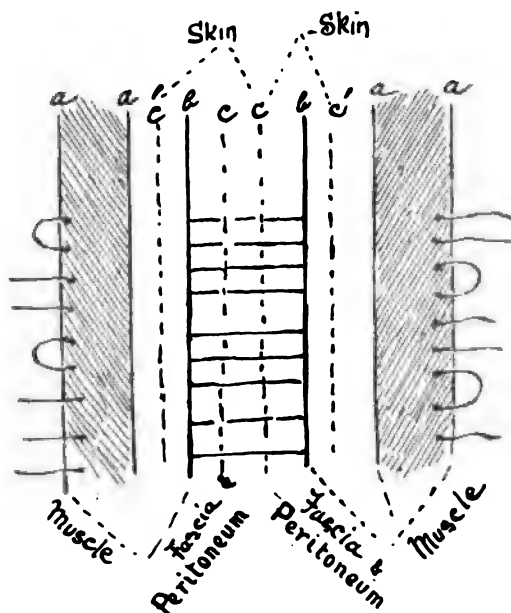


FIG. 4.

which projected for the entire length of the incision. This was paired, made to overlap, and closed with silkworm gut sutures, which were then cut short. The skin margins were then united. There was no trouble whatever after the operation, which the patient bore remarkably well. She has since left this country on a long voyage.

Very large Fibromyoma—Hysterectomy—Recovery.

The patient from whom this tumour was removed was a multipara, aged 50. Her last pregnancy was in 1890. She had never suffered any particular pain, and cannot date the commencement of the growth. She noticed an enlargement some two years since, but only within the last few months had there been a rapid increase in size. The catamenia had been irregular in occurrence and quantity, and there was considerable loss a few days before operation.

On examination, a large, movable, semi-solid abdominal tumour was found, apparently associated with the uterus, the cavity of which was over five inches in length. The abdomen was enlarged much beyond the size of that of the full term of pregnancy. I operated on September 12, the patient having full knowledge of the dangers connected with removal of the growth. The enormous tumour was found free from adhesions, a broad pedicle attached it to the left broad ligament, and there was a separate attachment to the uterus. The capsule having been completely detached by a circular incision, and stripped down, the tumour was delivered through an incision reaching from below the ensiform cartilage to the pubes. The attachment to the uterus was first secured, and supravaginal hysterectomy completed. The broad ligament pedicle was then ligatured in segments, and the tumour detached. After its removal, it was found that the bladder had been opened. The wound was closed by catgut sutures and a catheter retained. The operation lasted altogether for two hours, and during the last half hour subcutaneous (sub-mammary) injections of artificial serum were maintained. The anæsthetic given was chloroform. There was dangerous collapse on the delivery of the tumour, and again towards the close of the operation. As there was some bleeding from the bladder, it was washed out at intervals with a solution containing thirty minims of liquid extract of suprarenal capsule. The tumour proved to be a solid fibromyoma, and weighed

28½ lbs. Its size and shape can be estimated from the accompanying drawings from photographs (figs. 5 and 6). The table on which the tumour rests measures 16 ins. by 16 ins. (The uterus and the adnexa are not shown).

The patient has made an excellent recovery.

The PRESIDENT said the size of the hernia in Dr. Macnaughton-Jones' second case rendered it peculiarly interesting, the difficulty experienced in radically curing a hernia depended in great measure on its size. Under similar circumstances he would himself have used catgut, which for many reasons he preferred to silver wire.

Dr. FENWICK regarded the procedure followed in closing the hernia as decidedly ingenious, but the use of silver wire as introducing a risk not attending the use of catgut.

Dr. TRAVERS said that in two cases under his care silver wire had remained in the abdominal wall for two and three months respectively without producing ill effects. In a third case in which he employed silver wire sutures, the patient returned after the lapse of five months to have them removed, but was so adverse to the step that Dr. Travers consented to their remaining untouched, as they had produced no inconvenience. In this instance he had removed a large cyst containing six pints of fluid. On the eighth or ninth day after operation, when the bandage was removed, the wound was found to gape widely, and he consequently employed silver wire to close it. He could see no reason why it should not have been employed in the case under discussion.

Dr. HEYWOOD SMITH said that silver wire had been introduced and advocated as a suture in plastic operations on the vagina by Marion Sims, and he had found it the least irritating substance it was possible to use and it was, moreover, easily removed.

Mr. RYALL said that he had assisted Dr. Macnaughton-Jones when operating on the hernia-case. The operation was rendered peculiarly difficult by the dissection which the reflection of the skin involved, the latter being adherent to

the subjacent peritoneum. He regarded that as the most interesting feature of the case.

Dr. HODGSON, referring to the specimen in the third case described, said it was the largest solid fibroid tumour which, to his knowledge, had been brought before the Society, having been removed from a patient who had survived operation for any length of time.

CASE OF DOUBLE HYDROSALPINX. Under the care of CHARLES RYALL, F.R.C.S., Surgeon to the Cancer Hospital, and to the Gordon Hospital for Diseases of the Rectum.

A. H., aged 35, married, was admitted into hospital complaining of great abdominal pain, vomiting, and excessive loss at the menstrual periods.

History of Present Illness.—Five years ago she was seized with sudden acute pain in the abdomen, vomiting, and copious bleeding from the vagina. This attack, which lasted three weeks, came on at a time when the catamenia were not due. It was followed by others which recurred with increasing frequency and severity, and at length the interval might be as little as two weeks. The catamenia were irregular, excessive, attended by the passage of large clots, and lasted seven to eight days. The patient's past history, excluding three miscarriages, the last of which took place seven years previously, was fairly good. There was great tenderness in the right iliac fossa. An elastic, uniform rounded tumour could be felt rising out of the pelvis to within one and a-half inches of the umbilicus. Bimanually it was found presenting in Douglas's pouch, and its very limited mobility indicated its intimate connection with the uterus. The sound could be passed three and a-half inches.

Operation, October 1, 1901.—The abdomen was opened in the middle line, the omentum found attached to the parietes, and the tumour hidden from view by adherent coils of small intestine. On freeing these a double hydro-

salpinx was revealed. The right tube lay tightly adherent at the bottom of Douglas's pouch, and was overlapped by the left. The latter, which was first dealt with, was removed by enucleation, after division of the peritoneum of the meso-salpinx had been effected. The right tube was removed *en masse*. The tumour on the left side was the size of an average cocoanut, and that on the right of a big pear. Considerable oozing resulted from the breaking down of the adhesions, and there was also a good deal from the sac of the left distended tube, so drainage was resorted to. An opening was made through the posterior fornix into the vagina, and a second in the posterior wall of the oozing sac, and from the latter a strip of gauze was carried into the vagina. The abdomen was closed in three layers, and the drain removed in forty-eight hours. The patient made an uninterrupted recovery.

Dr. HEYWOOD SMITH said that in his experience it was quite possible to stop hæmorrhage, and it was preferable, when one could arrest it, to close the wound without making a counter opening in the vagina. Doyen, to arrest hæmorrhage, packed swabs forcibly into the pelvis and left them there until the operation was concluded. He, Dr. Heywood Smith, had given tincture of matico an extensive trial, and regarded it as a capital styptic, and as one, moreover, the use of which was not attended with any bad results. Mrs. Scharlieb had used it at his suggestion and had also formed a high opinion of it.

Dr. TRAVERS said that he had used matico on several occasions, and that it had in many cases saved the necessity of draining.

Mr. RYALL, in reply, said that he had employed both pressure and heat, but that both had failed to arrest the hæmorrhage.

CYSTIC SARCOMA OF THE RIGHT OVARY—REMOVAL—RECOVERY. Under the care of F. A. PURCELL, M.D., M.Ch., Surgeon to the Cancer Hospital.

The specimen shown, weighed, twenty-four hours after removal, 7 lbs. 15 ozs. Its circumference, measured at its greatest diameter, $26\frac{3}{4}$ inches, and at its least 18 inches.

Eliza C., aged 52, single, a prison officer, was admitted to the Cancer Hospital, September 24, 1901. She stated that since the menopause, which occurred six years previously, she had lost nothing; that prior to this she had always suffered from dysmenorrhœa, and that during the ten years immediately preceding the menopause the menstrual discharge had been more copious than in earlier life. For five or six years she had been growing stouter. She had suffered from abdominal pain, however, for a considerable time before any swelling became evident. The tumour, when first detected, was about the size of a hen's egg. She had also experienced a feeling of weight in the abdomen, and this had become more noticeable during the last two years. The bowels and bladder had been normal.

The patient was observed to be well nourished, and to be unable to lie flat on account of the dyspnœa produced. The abdomen was much distended, the superficial veins enlarged and the umbilicus flattened. A movable tumour, about the size of a football, was situated in the right hypochondrium, extending, however, across the middle line and three inches above the umbilicus. It was hard generally, but cystic in parts. A good deal of ascitic fluid, the presence of which denoted the malignant nature of the growth, masked its extent laterally. The uterus was felt, *per vaginam*, to be drawn up, but to be separate from the tumour. The sound passed $2\frac{1}{2}$ inches. The heart, kidneys and liver, were normal.

On October 2, the patient being under ether, the abdomen was opened in the middle line. The omentum, adherent in many places to the tumour, was peeled off and

ligatured. The pedicle, four to six inches in breadth, was secured in sections, divided, and the stump covered by peritoneum. Several openings which had been made in the omentum were closed with catgut, any tags present were cut away, and all bleeding points secured. The ascitic fluid was cleaned out, the left ovary examined and found normal, and, finally, the abdominal wall was closed in the usual way. The patient made an uneventful recovery, the temperature never rising above normal.

LARGE INTRACYSTIC MAMMARY SARCOMA.

Dr. HERBERT SNOW exhibited a large breast, the heaviest he had ever had occasion to excise, which had been removed owing to the presence of an intra-cystic sarcoma. The specimen, even after the escape of a considerable amount of fluid, weighed 6 lbs., 12 ozs. For comparison he showed the photograph *in situ* of another such growth, which had been subsequently removed and found to weigh 4 lbs. 4 ozs. The patient was an eccentric maiden lady, aged 52, whose breast had been the site of a tumour for at least twenty years, the late Sir James Paget having then advised its removal. The mass was mobile. Large vessels covered the surface of the skin, which, however, was not ulcerated. There were no enlarged glands. Operation was resorted to only when the pain from distension became agonising. The growth, a congeries of cysts filled with pulpy tissue, on microscopical examination showed the usual characters of a rapidly growing spindle-celled sarcoma.

The patient made a favourable recovery. It was remarkable that no rise of temperature had taken place during convalescence, the chart, which was also before the Society, showed that this had been sub-normal throughout.

FIBROMYOMA SIMULATING APPENDICITIS AND CAUSING INTESTINAL OBSTRUCTION.

BY W. TRAVERS, M.D., F.R.C.S., &c.

I was summoned, a few months since, late at night, to see a lady's-maid suffering from very acute abdominal pain

—this was the fourth day of the attack. She was a martyr to constipation, and despite strong aperients and enemata, had had several severe attacks of “obstruction,” in one of which, two years since, a fatal sequence was feared; the pain and tenderness accompanying them were always in the right side. I found a tall, slightly built woman, aged 40, with an anxious flushed face, expressive of much pain, decubitus dorsal with flexed knees, respiration quick and shallow, pulse 100, temperature 100°. She had been once sick. The abdomen was slightly tympanitic, and scarcely moved in respiration, not doing so at all over the right iliac quadrant. The patient dreaded to be touched, being very tender all over, and especially in this region. There was general resonance, but percussion gave a wooden note over the same part, where too, although pain prevented at all careful palpation, there was a distinct feeling of resistance as if there were solid matter beneath. The upper line of this space was clearly defined by an apparently rounded thickening. The attack had begun with more than usually severe constipation and pain; vigorous treatment with drugs had produced two free evacuations on that (the fourth) day, with exacerbation of all the symptoms. The lower bowel was empty and ballooned; on the right side high up, some fulness could be felt. On very careful inquiry, there was found to be no history of any past or present uterine fault, and as she was then menstruating no vaginal examination was made. The symptoms pointed to appendicial trouble, and her condition was sufficiently severe to call for surgical interference. At that late hour (11.30 p.m.) and under the novelty of the circumstance to those about her—all her friends, too, living a long way off—I felt justified in leaving her for the night, having ordered opium gr. $\frac{1}{4}$; codeina, gr. $\frac{1}{2}$; ext. belladonnæ, gr. $\frac{1}{4}$, at once, the dose to be repeated each fourth hour. She was carefully swathed in cotton wool.

I saw her again at 8 a.m. Although her symptoms were not more urgent no one of them had abated. The pulse and

temperature were the same as on the previous night. The acute pain had been relieved by the pills and she had had some very broken sleep; however, she looked certainly worse, even to her mistress's eyes. She had been sick once again, but there was more distension, and no flatus had passed. I emphatically urged an operation at once, but under the circumstances suggested that she should have the benefit of another opinion and wished that Doctor Schacht should see her with me; this was cordially agreed to, and he met me half an hour later. His views coincided with mine as to the course to be pursued and as to the probable cause of the condition. We proceeded to operate, my friend Mr. Barton, of Redcliffe Gardens, kindly giving the anæsthetic. A four-inch curvilinear incision, outside the right rectus muscle and ending about the middle of Poupart's ligament, was made down to the peritoneum. This membrane was found injected and thickened, and on incising it the sub-peritoneal tissue was noted to be very adherent to the bowel underneath by both recent and earlier adhesions; on separating these with the fingers, a large mass of scirrhus-like hardness was felt closely attached to the bowel, to its outer side, and adherent to the pelvic wall. By carefully tearing through the adhesions this growth was with some difficulty brought through the wound, now increased in length for the purpose, when it was found to be closely bound to, but not incorporated with, the colon wall. The ascending colon and cæcum were very injected and dilated, but otherwise healthy. There was a good deal of free oozing—the mass, evidently a fibroid, was carefully cleared from its surroundings, a kind of pedicle was formed and tied, and the tumour removed. The wound was carefully closed and the patient placed in bed. On after examination the fibroid was found to have no real pedicle. That which had been ligatured consisted only of a rope of thickened cellular tissue containing blood vessels. She gave me no anxiety throughout her convalescence. She regained strength slowly, and we had some trouble with the action

of the bowels, but at no time was there the difficulty which she had previously experienced. She is now performing all the duties of her office without discomfort, and her constipation is easily overcome. When I was called in to see her it was impossible to palpate sufficiently carefully to discover the growth, even though it was of such a size as the tumour before the Society.

Dr. TRAVERS, replying to Dr. Heywood Smith, said there was no connection between the uterus and the tumour. The latter was surrounded by cellular tissue containing numerous blood vessels, and in pulling it out an artificial pedicle of these structures was formed, but there was no pedicle in the usual acceptation of the word. There was no fibroid present in the uterus.

Mr. RYALL thought that the frequency of the pulse (only 100) completely justified Dr. Travers in the course he pursued on the first evening. The pulse was the only reliable source of information in such a case. He had it invariably charted for the first four days after an abdominal operation.

After further discussion Dr. Travers replied. He thought that the character as well as the frequency of the pulse should be taken into consideration, though he cordially agreed with the remarks which had fallen from Mr. Ryall.

ORIGINAL COMMUNICATIONS.**NOTES ON SOME COMPLICATIONS WHICH OCCASIONALLY
EXIST CONCURRENTLY WITH FIBRO-MYOMATA OF THE
UTERUS.**

BY FREDERICK BOWREMAN JESSETT, F.R.C.S.

Surgeon to the Cancer Hospital and the Gordon Hospital for Fistula.

THE treatment of fibro-myomata of the uterus has of late been so thoroughly thrashed out, that it would seem somewhat superfluous to write further upon the subject.

The importance of the matter and the rapid strides which have been made of late years, however, would in itself be an excuse for bringing the subject before the profession again, but in this paper I intend to confine myself to the mention of various cases, which have come under my own observation, of certain complications which are not infrequently met with when operating for the removal of these growths ; complications many of which are quite unsuspected by the operator, and which frequently tax his ingenuity and resources to the utmost.

The complications I purpose discussing to-day are :—

- (1) Ovarian cysts.
- (2) Hydrosalpinx.
- (3) Pyosalpinx.
- (4) Appendicitis.
- (5) Tumour in broad ligament.
- (6) Adhesions to the intestines.
- (7) Adhesions to the bladder.
- (8) Hypertrophy of the bladder.
- (9) Implication of a ureter.

- (10) Pregnancy.
- (11) Tubal gestation.
- (12) Multiplicity of myomata.
- (13) Malignancy.

Ovarian cysts are not frequently present in conjunction with myomata of any very great size, although it is very common when operating for ovariectomy to find sundry small myomata studding the uterus ; these, however, give rise to no trouble or anxiety. But when one is operating on a large myomatous uterus and a good-sized ovarian cyst is met with, then it is that the surgeon may experience some trouble, especially, as occasionally occurs, these cysts are filled with a thick colloid substance which will not run through the trocar, and it is very undesirable that it should escape into the peritoneal cavity. I have had two cases under my care ; in one the cyst was filled with a clear, straw-coloured fluid, and the other a multilocular cyst filled with colloid material. In the first case the cyst was diagnosed before the operation, and at the operation was tapped in the ordinary way and the cyst removed without trouble, subperitoneal hysterectomy being performed at the same time. This patient made an uneventful recovery. The other case was of very much more serious character, and owing to adhesions to the intestines and omentum much difficulty was experienced in its removal. This complication was not diagnosed before operation, it being looked upon as a large, rapidly-growing, soft myoma of the uterus. The patient was a married woman, aged 35 ; no children. Mother said to have died of an abdominal tumour. She always enjoyed good health until the last year, when she suffered a good deal from menorrhagia. Has noticed herself becoming stouter for the last seven or eight months ; latterly the enlargement of her abdomen has increased very rapidly. On examination a large tumour was seen extending to about two inches above the umbilicus, smooth, and fairly movable. By bi-manual examination the tumour seemed to move with the uterus,

and although very hard in the vagina, there appeared to be some slight elasticity in the whole tumour. By abdominal examination there was no definite sign of any division in the tissues, and the growth was looked upon as one of soft, rapidly-growing myoma. I advised early operation. On opening the abdomen the tumour at once presented itself, and was clearly cystic. On passing the hand around it, several adhesions were encountered connecting it with the omentum and parietes; these were broken down. Then it was discovered that another tumour, which was hard and resisting, existed in the pelvis. Having separated all the adhesions, I pushed a large-sized trocar into the cyst, but nothing escaped, and I found I had to deal with a multilocular colloid cyst of the ovary. By enlarging the abdominal incision this was delivered, and with some difficulty, owing to adhesions of the cyst to the uterine myoma, the pedicle was ligatured and the cyst removed. The myomatous uterus was next removed by ligaturing the broad ligaments and dividing the cervix subperitoneally. Unfortunately a quantity of the colloid material had escaped into the abdominal cavity. This was swabbed out with gauze as cleanly as it was possible, the peritoneum carefully sutured over the floor of the pelvis, and a gauze drainage tube introduced into the lower angle of the abdominal wound. The patient made a tedious recovery, but is now, a little more than a year after the operation, in the enjoyment of good health.

In this case it will be observed although a quantity of colloid material escaped into the abdomen, I did not attempt to flush the cavity out with water or saline fluid; this process, which was so insisted upon by Tait and other gynecologists of his year, has now dropped comparatively into disuse by most gynecologists of the present day, as there is no doubt that this very washing out was a means of conveying the deleterious material into various pouches in distant parts of the abdomen, which would otherwise be uncontaminated. It is therefore, in these cases, and

also in cases of pyosalpinx, better before attempting to remove the diseased parts, to pack cyanide or sterilised gauze well in between them and the intestines so as to completely shut them off from any contamination in case of rupture. Should rupture occur, and the contents of the cyst escape into the peritoneal cavity, it should be carefully swabbed out with gauze after removal of the diseased tissues, and if thought desirable, a gauze drainage introduced ; this, however, is very seldom required.

In coeliotomies I have nearly abandoned the use of sponges for that of cyanide gauze. This should be cut about four feet long and folded into four, so that we have square folds of about a foot square. Have from nine to a dozen of these neatly folded and placed at hand in a vessel, so that nobody touches them but yourself ; they are easily packed around the intestines, and as one piece is taken out it is placed into a receiver provided for the purpose, so that at the end of the operation the number of pieces provided may be accounted for before closing the abdomen.

Pyosalpinx. Only one case of pyosalpinx in connection with myomata has come under my observation. This was the cause of some considerable difficulty in diagnosis. The patient was 26 years of age, and had been married five months ; had been quite regular until her marriage, but had only seen her periods once, and that very slightly after marriage, until the last month, when she had had more or less constant blood-stained vaginal discharge, accompanied by great pain in the left iliac region. She had a temperature varying from 100° to 102° F., and said she had had slight shivering once or twice.

When I saw her she looked very ill. On abdominal examination a rounded swelling was noticed above the pubes extending slightly to the right of middle line ; on palpation much pain was caused on pressure, especially in the left iliac region, the swelling above the pubes was hard and resisting. *Per vaginam*, a soft swelling was felt in the pouch of Douglas, more so to the left side, it was very painful.

By bi-manual examination this swelling was apparently in the broad ligament and was attached to the uterus, the tumour above the pubes was also distinctly connected with the uterus. The diagnosis of this case was very obscure, I was inclined to think it was a ruptured tubal pregnancy with fibro-myoma of the uterus; in any case, owing to the condition of the patient, early operation was indicated. On opening the abdomen the tumour presented itself, there evidently was considerable amount of peritoneal inflammation, the intestines being adherent by recent adhesions, which were readily broken down. On passing the hand into the pelvis behind the tumour it was found that there was a quantity of adhesions binding down the uterus, fortunately these were readily broken down, when a large mass was felt in the left side, which with some difficulty was released and then the tube was brought into view; this was ligatured close to the uterus and removed. Unfortunately in getting this out it burst and a quantity of foul-smelling pus escaped, this was carefully wiped out. On examining the left tube it was found to be distended and very adherent, this was also removed. The question then arose whether to attempt to remove the myomatous uterus, and it was decided under the circumstances of the condition of the patient, which was very feeble, and the fact that a quantity of pus had escaped into the peritoneal cavity, it would be wiser to leave the uterus and its fibroids *in situ*. A small gauze drainage was inserted into Douglas's pouch and brought out of the lower angle of the wound, this was removed in forty-eight hours, as the patient's condition was everything that could be desired and the temperature had dropped to normal, and there was only a very slight sero-sanguine discharge drainage by the gauze. This patient made an uneventful recovery. I saw her some few months after the operation and was pleased to find the myoma had considerably diminished in size, and I shall hope to hear that it will give her no further trouble.

Appendicitis.—I have only seen one case in which appen-

ditis existed as a complication with myomata. This was a case of a young woman who consulted me for pain in the right iliac region, she had high temperature and a rapid pulse. There was considerable tenderness on pressure over the right iliac region and some fulness. She was kept in bed and treated for a short time, the pain, however, continuing, it was decided to operate. On opening the abdomen and searching it, for the appendix was found to dip downwards and inwards, was of the size of a little finger, and localised peritonitis around, it formed adhesions to the neighbouring parts; on separating these and gently drawing the appendix outwards, it was found firmly adherent to a substance more deeply seated in the pelvis. This proved to be the right tube, with which it was firmly united by strong adhesions. The tube was also much inflamed and thickened. I ligatured the tube close to the uterus and removed it with the appendix; it was then discovered that there were well marked myomata connected with the uterus; they were not of any great size, however, and had caused no symptoms, and it was agreed it would be better to leave them alone. The patient made an uneventful recovery, and I have heard nothing of her since. It is readily conceivable that had the myomata of the uterus been of considerable size before the appendicitis declared itself, that very serious complications may have arisen.

Broad ligament cysts or fibroids.—These are not infrequently found in connection with myomata of the uterus, and often give rise to great difficulty in the performance of hysterectomy. If they are of any considerable size, and situated as they usually are, on one side only, it will be found desirable, indeed absolutely necessary, to free the uterus on the opposite side by ligaturing and dividing the broad ligament as well as the uterine artery on that side, and then dividing the cervix if it is decided to perform the subperitoneal operation, or opening up the vaginal roof if panhysterectomy is preferred, and then removing the uterus and broad ligament tissues from below upwards,

clamping the uterine and ovarian arteries before dividing them ; they can be readily ligatured after the tumour is removed. In this operation a large opening is necessarily made in the peritoneum, which must be most carefully closed by a continuous suture of No. 1 Chinese silk. In my opinion in these cases it is always desirable to perform panhysterectomy, as by this means a free drainage is secured through the vagina, a matter of very great importance, as frequently there is considerable oozing, which would probably result in the formation of hæmatocele, if the subperitoneal operation was performed.

Adhesions to omentum and intestines.—Adhesion of the tumour to the omentum is not uncommonly met with, and need cause no anxiety, as it is easy to ligature the omentum in segments and release it from the tumour. Adhesion to the intestines is, however, of very much more serious importance. Fortunately, in myomata pure and simple, adhesions are not at all common ; but when the intestines are found firmly adherent, as they not infrequently are, it requires the greatest delicacy of manipulation to detach them ; this is most readily effected by using a sponge or pellet of gauze, and gently peeling the intestine from the tumour. In some cases it is impossible to do this without tearing through the coats of the intestine, which necessarily is a very serious complication, and the utmost care must be taken to close the opening at once. This is best done by first uniting the mucous membranes, after the parts are thoroughly cleansed, with a continuous No. 1 silk suture, then introducing a number of Halstead blanket stitches outside, so bringing together a large surface of peritoneum. Should there be any oozing from the surface from which the adhesions have been detached, it may usually be readily stopped by the application of tincture of matico, by means of a piece of gauze, soaked in the tincture, being dabbed on the surface.

A far more serious complication than mere adhesion of the intestine occurred in my practice some years ago. In

this case the transverse colon was completely imbedded between two large fibroids, so much so that the distal portion of the intestine, which was drawn quite taut over the lower tumour and placed behind and in close juxtaposition to the left broad ligament, was enclosed in the ligature which was placed round the ovarian artery and tube, and divided, and a similar accident occurred on the right side. The tumour, a very large one, was removed, everything appearing satisfactory, and the abdomen closed. On examination of the tumour, afterwards, it was found to our amazement and horror that a piece of the transverse colon was deeply embedded in the tumour between two large tissues. The patient was replaced on the table and a search made for the divided ends of the colon; these it was found impossible to unite, so the proximal end was brought out at an opening in the right flank and fastened to the wound, and the divided end of the distal portion invaginated on to the intestine and stitched over. This patient, who was a single woman with very thick fat parietes and a large quantity of fat in the omentum and meso-colon, lived for five days afterwards and then succumbed. The interesting point in the case was that there had never been any symptoms of intestinal obstruction or any particular trouble with the bowels. The tumour weighed just over 10 lbs. and consisted practically of two distinct growths, one arising from the anterior surface of the uterus, and presenting in front, and the other arising from the posterior surface and pushing up behind the colon and transverse meso-colon, then pushing forwards, thus completely burying the transverse colon between the two tumours. The transverse meso-colon was stretched over the posterior tumour; it was mistaken for the omentum, and was divided and peeled carefully back, and ligatured in segments; the colon was also considerably stretched, and on the left side was of very small calibre.

Adhesions of the bladder.—It would be more correct to describe these as due to the bladder being drawn up on

the tumour. This complication is comparatively common, but must always be borne in mind when operating, as otherwise it is quite possible, in stripping down the anterior flap of peritoneum before removing the tumour, that the bladder may be torn or even divided—several such cases have been recorded; should the bladder be opened it is hardly necessary to say it must be at once closed, first by a continuous suture uniting the mucous membrane along the whole length of the opening and then by another layer of interrupted blanket sutures, being careful to see that the mucous membrane is completely turned inwards into the bladder. It is always wise in these cases to introduce a self-retaining catheter for some days, so as to keep the bladder quite empty.

The bladder often is found to be enormously distended, especially in cases of impacted tumours in the pelvis; a well marked case came to my notice a short time since. A single woman, aged 42, was sent to consult me respecting an enlargement of the abdomen from which she had suffered for about five months; she attributed it to a chill, after which she was troubled by somewhat frequent desire to micturate, which gradually increased, but she said she always passed plenty of water, it was quite clear and caused her no pain in passing. She suffered from constipation; catamenia quite regular. On abdominal examination a large prominent tumour was at once evident, smooth and occupying the lower part of the abdomen, extending as high as the umbilicus and into either flank. Distinct and well marked fluctuation was present; the tumour had every appearance of a large unilocular ovarian cyst. On vaginal examination I noticed a little urine escaping from the urethra, and on passing the finger into the vagina a hard tumour was felt occupying the pelvis and closely connected with the uterus. Bearing in mind the history of the case I deemed it advisable, before arriving at a definite opinion, to pass a catheter into the bladder, notwithstanding the patient had told me she had micturated an ordinary amount only half an hour previously; on the introduction of the

catheter a quantity of urine escaped and continued to do so until I had drawn off close upon two quarts, with the result of entirely disposing of the abdominal tumour.

I was now enabled to examine the uterus more carefully and by bimanual examination discovered a tumour connected with it, and firmly wedged into the pelvis. I advised an early operation. Abdominal hysterectomy was performed without trouble by the subperitoneal method and the patient made an excellent recovery. When operating the bladder was found to be enormously thickened and enlarged. A self-retaining catheter was introduced and kept in the bladder for some days.

Ureter implicated.—This complication is occasionally met with, usually in very large myomata in which the growth extends into the broad ligament and drags the whole peritoneum upwards and forwards. The ureter in these cases being stretched over the growth, to avoid dividing it, it is desirable to separate the bladder with the anterior flap of peritoneum and separate this from the growth from below upwards, so stripping the peritoneal flap well free of the tumour; by this means the bladder and ureter are peeled off the growth and the vessels ligatured as divided. If it is attempted to divide the broad ligament and vessels from above downwards in the usual manner it will be very difficult to avoid dividing the ureter, and from its stretched condition it would easily escape the notice of the operator. In the event of the ureter being divided the continuity of the tube should be at once re-established by slitting the distal portion down for about half an inch and invaginating the proximal end into it and fastening by one or two fine silk sutures; this has been done on several occasions. Personally I have not met with a case in which this complication existed sufficiently to cause any trouble.

Pregnancy is a complication very much more commonly met with than is generally supposed, and one of very great importance, which often taxes the judgment of the surgeon very considerably, as to the advisability of leaving

the uterus to itself or advising surgical interference, either in the way of removing the whole organ, or producing abortion, leaving the myomata to be dealt with as may be indicated, to a later date. There can be no doubt that in a large number of these cases pregnancy, if left alone, would go on to the full time and the child be born without very great risk to the mother, or, indeed, trouble in delivery. It is a well recognised fact that during pregnancy myomata increase very rapidly in size, and it is the situation of these growths which must guide the surgeon in giving an opinion. A number of cases have come under my notice, in the majority of which the patients were advised to leave matters alone and wait events ; many of these have gone the full time and been safely delivered of a healthy child ; others have aborted, usually about the fourth or fifth month. These cases of abortion are not devoid of danger to the patient, firstly, from loss of blood, as it is often very difficult to recover the placenta, and most violent hæmorrhage frequently occurs ; secondly, from septicæmia, from a portion of the placenta being retained and becoming gangrenous and putrid. In septicæmia to curette and clear the uterus of *débris* in cases where large myomata are present, is a most difficult and dangerous operation, and it is very doubtful if a complete hysterectomy may not be performed with very much less risk to the patient than that of any such proceeding as curetting. The rule that I think should guide the surgeon in coming to a decision is the situation in the uterus of the growths ; if these are situated in the cervix, and wedged into the pelvic cavity, then I think it would be unwise to delay operation. In such a case I should unhesitatingly recommend hysterectomy. I had a patient under my care some little time ago in which I advised delay, the result being that she very nearly forfeited her life ; she was a woman aged 40, had been married fifteen years ; no children ; a miscarriage ; had been quite regular until four months ago, had no suspicion of pregnancy ; she had, however, during the last two months noticed her abdomen

getting larger and harder, for which she consulted me. I found on examination, a tumour the size of a cocoa-nut, situated in the lower part of the abdomen; *per vaginam* another tumour was felt in the right fornix, the os being drawn upwards and to the right, and rather difficult to examine. The areola around the nipples was distinctly pigmentous. On examination over tumour with the stethoscope, an indistinct bruit could be recognised. The patient was advised to return home, keep quiet and await events.

Some five weeks afterwards her husband called on me, telling me that his wife was seriously ill, with high temperature, and much abdominal pain; she had had two severe rigors, and he wished me to see her as soon as possible. I found her very ill, with a good deal of tenderness over abdomen. The tumour, which was only the size of a cocoa-nut when I first saw her, was now a large mass occupying the hypogastric, umbilical, and inguinal region of the abdomen, and extended from about four and a half inches above the umbilicus into the pelvis. It was divided into two masses; an upper, about the size of a melon, and a lower larger tumour; between the two there was a sulcus, into which two fingers could be introduced. No fluctuation. Girth at umbilicus $40\frac{1}{2}$ inches. I advised immediate operation, and the patient was removed to the hospital for that purpose. I performed abdominal hysterectomy by the subperitoneal method, and the patient made an excellent recovery.

On examination of the specimen the uterus was found to be more or less embedded between the two tumours. On opening the uterus a foetus was discovered, which had evidently been dead for some days, and was quite black, and putrefaction had commenced. Had this patient not been operated on when she was she would undoubtedly have died.

In another case a patient, aged 38, who had been married seven months, was sent to me. She had had no children or miscarriages, had been quite regular until five

months before coming to me. She had a large tumour in her abdomen extending some three inches above the umbilicus and into either flank. *Per vaginam*, a large mass was found filling, and apparently completely wedged in, the pelvis. The areola around nipples were pigmented, and a distinct souffle was heard over left side of tumour above the pubes, by the stethoscope. The os could not be felt by the vagina, owing to the tumour. I advised operation. I performed abdominal hysterectomy, and had great difficulty in getting the tumour out, in fact it was only by means of an assistant pushing the tumour upward through the vagina while I endeavoured to lift it out of the abdomen, that it was delivered. In this case it was absolutely necessary to ligature and divide the broad ligaments before I could lift the tumour at all. The patient made an excellent recovery. On examination of the specimen it was found that the uterus was pushed considerably above the pelvic brim, and a foetus of some four months' gestation was found. Undoubtedly if this case had been left to nature the woman's life would have been jeopardised.

Tubal gestation.—Tubal gestation existing with myomata must, I think, be exceedingly rare; I have never seen such a case, but there have been a few recorded; that such a complication would be fraught with much danger to the patient is self-evident. The only treatment when discovered must undoubtedly be early operation.

Multiplicity of growths is very frequently met with; more particularly intramural or subserous myomata are frequently met together in large numbers, and so long as they remain small and cause no symptoms they may well be left to themselves; should they, however, commence to grow and cause pressure on the surrounding organs, or should hæmorrhage supervene, then surgical interference should at once be recommended. It is somewhat rare to find submucous or uterine polypi existing with the intramural and subserous; I have just lately, however, had such a case. This patient, aged 28, married, was pregnant with her first child

and aborted at the sixth month, causing her medical attendant much anxiety, owing to the difficulty in detaching the placenta, and violent hæmorrhage. He found that the uterus appeared to extend very high, but there was great difficulty in introducing his hand to clear away the placenta, owing to the pressure of two large bosses on each side. The patient made an excellent convalescence, however, and I was asked to see her on account of the remaining tumour in her abdomen. I found on abdominal examination a large tumour extending upwards and to the right, to within one inch of the umbilicus, and another pressing over into the left iliac fossa; there was a good deal of rather offensive discharge from the vagina. I advised her to be kept quiet and have some antiseptic douches and wait for a few weeks. At the end of this time I saw her again, the tumour had not increased in size, but there was some considerable hæmorrhage; I recommended operation, and performed abdominal hysterectomy. The patient made an uninterrupted recovery. On examination of the specimen the two tumours which were felt before the operation were two intramural myomata, one situated on each side of the uterus, the fundus of the uterus forming the root of the growth between the two tumours. There were three subperitoneal growths of smaller size and one heart-shaped pedunculated growth hanging on the anterior surface with a pedicle some two inches long.

On cutting open the uterus a polypoid submucous growth was found in the cavity about the size of a large Brazil nut. The wisdom of removing this uterus could scarcely be questioned.

One question which has been discussed of late is, Do these myomata, when existing with pregnancy, diminish in size after the child is born? An American authority of no mean repute expressed himself that these tumours never do decrease in size under such conditions. This certainly is not my experience or that of most English gynæcologists, as undoubtedly they do commence to decrease in size

directly after the birth of the child. I have seen cases in which myomata of very large size have completely disappeared and caused no further trouble.

Malignancy.—Carcinoma may certainly be found to be present in a myomatous uterus, but I believe it to be somewhat rare for a myoma to become carcinomatous. I have had one such case in which I believe there could be but little doubt that such a condition of things had occurred; it was a patient, single, aged 60, who had suffered from myomata for some two years, accompanied with violent hæmorrhage, menorrhagia and metrorrhagia. She was advised to have no surgical interference. After two years' treatment and matters not improving, she was placed under an anæsthetic and the uterine cavity curetted. The *débris* was examined and pronounced to be carcinoma. She was told that nothing more could be done for her and that she had better make herself as comfortable as possible and await the end. She then consulted me and under ether I found the uterus with its tissues fairly mobile and advised immediate operation. Abdominal hysterectomy was performed and the patient is alive and free from any recurrence some three years after operation.

With respect to myomata taking on sarcomatous growth, I think there can be no doubt. I have certainly had some six or seven such cases, and it is in these cases that it is so necessary to remove the whole organ, and an argument is to be found against the subperitoneal operation. As it is often impossible to say whether soft rapidly-growing myomata are sarcomatous until such time as they have been submitted to the pathologist for his report, I would therefore counsel in all cases of soft rapidly-growing myomata, especially if the cervix is at all implicated, that panhysterectomy should be performed. The risk to the patient is not materially increased, and undoubtedly if the tissues should be proved to be sarcomatous, the prognosis of the case must of necessity be bad, as recurrence in the stump is pretty sure to occur if the subperitoneal method of operation be adopted.

I have ventured to publish my experience in connection with these complications, which may be met with accompanying myomata of the uterus, thinking they may be of some interest to those who make the study of diseases of women their specialty, and hoping the remarks may be of some practical use.

RETENTION OF THE MENSES.

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BY retention of the menses is meant an accumulation of menstrual blood—more or less altered—within the genital canal. It is a rare condition, as rare as suppression of the menses is common. In suppression there is an arrest of the process of menstruation, the uterus failing to secrete the menstrual fluid. In retention menstruation goes on, but is concealed; that is to say, the menstrual blood is poured out by the uterine mucosa, but owing to atresia, or occlusion of some part of the genital canal, cannot escape (being dammed up above the point of obstruction) and slowly accumulates. The genital canal above the point of obstruction slowly dilates into a huge retention cyst.

We are all familiar with the process of formation of retention cysts in the case of the secreting glands. If the duct of any of these glands be occluded, the secretion collects in the duct and cavity of the gland and a cyst is formed. Thus, if the ureter be blocked by a calculus, the urine distends the kidney into a cystic tumour, a hydronephrosis. Should this collection become infected with micro-organisms, suppuration occurs and the kidney becomes a sac of pus, a pyonephrosis.

Similarly, if the cervix be occluded, the uterus becomes slowly distended with blood, a condition which is called hæmatometra. If germs gain access to this retained blood it decomposes, becomes purulent, and then what is called a pyometra is produced.

Atresia of the genital canal may be either acquired or

congenital, and as a cause of menstrual retention may occur at the hymen, in the vagina, or in the cervix.

Acquired Atresia.—This is most common in the cervix and is usually the result of some lesion causing destruction of the cervical tissue and subsequent cicatricial contraction. It occasionally results from injudicious operations on the cervix. Thus, I have seen it occur after removal of an epithelioma of the cervix by means of Paquelin's cautery. This caused extensive sloughing and suppuration, until finally the cervical canal was replaced by dense scar tissue.

Atresia of the cervix may be caused by : (1) Cervicitis ; (2) new growths of the cervix, such as cancer ; (3) repeated application of caustics to the cervix ; (4) sloughing of the cervix after confinement ; (5) operations on the cervix, such as amputation.

Atresia of the vagina may be caused by : (1) Sloughing after parturition ; (2) inflammation leading to ulceration of the vagina ; (3) injuries causing sloughing, such as burns, the application of caustic, &c.

Congenital Atresia.—This is caused by some defect in the process of development of the genital canal. The uterus, Fallopian tubes and vagina are formed from the two ducts of Müller. In early foetal life these ducts are two solid parallel columns of cells. The columns then become hollowed out into two tubes, which still later fuse in their lower and middle thirds to form a single tube (which forms the vagina and uterus), whilst the upper thirds, remaining separate, form the Fallopian tubes. The hymeneal orifice is formed by an invagination from the skin into the lower end of the fused ducts of Müller. Should the process of hollowing out of the columns of Müller be in any part arrested, a horizontal septum is left, completely closing the canal. When puberty arrives and menstruation begins, the menstrual blood collects above this septum and a retention cyst is produced.

Should there be a failure in the process of fusion of the ducts of Müller, more or less doubling of the genital canal

results. The two conditions (viz., doubling of the canal and retention of the menses) frequently co-exist.

As an illustration of the sequence of events, let us take the case of a congenital atresia of the lower third of the vagina. Until puberty occurs things remain *in statu quo*. But when the process of menstruation begins the uterus at each period pours out a certain quantity of blood—some four or five ounces. This, being prevented by the atresia from escaping, collects in the vagina, and distends it slowly, month by month. Thus a large tumour is formed, filling the pelvis and rising up into the abdomen. At first the womb is merely lifted up by this collection, but is not distended, because its tissues are much more resistant than those of the thin lax elastic vagina. As time passes the pressure of the fluid increases, and the womb in its turn becomes distended and may form a tumour as big as a six months' pregnancy. Still later the Fallopian tubes become distended and form large sausage-shaped masses on either side of the uterus. Lastly, the retained secretion may burst the distended tubes, pour into the peritoneum and, if aseptic, produce an intraperitoneal hæmatocele; if septic, an acute peritonitis.

A retention cyst formed by the vagina is called a hæmatocolpos if the fluid be blood only; a pyocolpos if it be pus. If formed by the uterus it is termed, according to the character of the fluid, a hæmatometra or a pyometra. When the Fallopian tube is distended with blood the condition is termed a hæmatosalpinx; when with pus a pyosalpinx.

I have already referred to the frequent duplication of the uterus and vagina in cases of menstrual retention. The amount of doubling varies in degree. In one case the uterus is merely bicornuous; in another, there is a mesial septum dividing the body into two chambers which open into a common cervix. In other cases there are two completely separate uterine bodies, each with its own cervical orifice. Similarly, the vagina may be divided by a mesial

septum into two distinct canals. Usually there is atresia of only one of these canals; there being then retention on one side, whilst on the other the menses are discharged normally.

Character of the Fluid.—The retained menstrual secretion differs somewhat from that of ordinary menstrual blood. A considerable portion of the watery element is absorbed, and the blood corpuscles slowly break down. The result is a dark chocolate-brown treacly fluid, viscid from the presence of much mucus. Under the microscope it is seen to consist of altered blood pigment (chiefly hæmatin), epithelial cells and disintegrated blood corpuscles.

Signs and Symptoms.—Before the age of puberty there are no symptoms; but after that period, at each monthly epoch the girl suffers from pelvic pains without any external appearance of the monthly flow. As the months pass by, the pains increase and become paroxysmal in character. If at this stage an examination be made, there will be found arising out of the pelvis into the abdomen a tense elastic fluctuating tumour which feels uncommonly like a pregnant uterus. Should the case be one of hæmato-metra, it may contract intermittently, and on auscultation a loud bruit may be heard over it. Should the Fallopian tubes become distended they may be felt as large sausage-shaped masses on either side of the distended womb. On examination the vulva may be quite normal, or through it may be felt the bulging lower pole of the distended vagina. In certain cases where the middle half of the vagina is absent, the bladder and rectum come into contact as they do in the male pelvis; but even in these cases, on making a rectal examination, the lower pole of the distended upper portion of the vagina or uterus may be felt high up in the pelvis.

Should germs gain access to it, the retained blood decomposes and becomes converted into horribly foetid pus. Then, in addition to the symptoms of retained menses, there will be evidence of septic absorption such as rigors,

high temperature, quick pulse, hectic sweats, wasting, and local tenderness.

In those cases of menstrual retention with doubling of the genital canal (where one canal is occluded and distended, whilst the other is patent) the symptoms and signs are somewhat different. At each month there is an ordinary menstrual discharge, but in addition the girl suffers from severe colicky pains on one side of the pelvis, the same side as the occlusion. If an examination be made there will be found to one side of the uterus, and sometimes also to one side of the vagina, the characteristic cystic tumour.

Treatment.—The cases vary so much that no one line of treatment can be laid down as applicable to all cases ; but there are certain general principles which should guide us.

(a) Whenever it is possible, the collection should be open and drained *per vaginam*. The vulva and vaginal cul-de-sac must be rendered aseptic, and a free horizontal incision made in the roof of the cul-de-sac, and carefully deepened by dissecting up between the bladder and the rectum (if they be in contact). When the wall of the retention cyst is reached, a free transverse incision should be made into it, and the viscid treacly fluid washed away by prolonged irrigation with some mild antiseptic fluid. If it be possible the mucous membrane of the sac should be drawn down and sutured to that of the vaginal cul-de-sac, and the cavity lightly packed with iodoform gauze.

(b) Should the Fallopian tubes be felt distended on either side of the uterus, an abdominal section should at once be performed, and the tubes emptied of their contents by free incision. Should they contain pus they ought to be immediately removed.

(c) In those cases where it is impossible or dangerous to reach the retention cyst from the vagina, the abdomen must be opened and the uterus and tubes extirpated.

(d) Where there is a septate condition of the uterus or a double vagina, the septum should be divided as far as possible and the two cavities thrown into one.

(e) In many cases where an artificial opening is made, especially in the cervix, there is a marked tendency for it to reclose by cicatricial contraction. This must be prevented by the regular passage of bougies, or by the wearing for months or years of a flanged rubber or vulcanite tube.

(f) In all these operations there is a great danger of septic infection, and therefore the most scrupulous antiseptic precautions, not only in the operation, but during the after treatment, are of vital importance.

Prognosis.—This depends (a) on the situation of the atresia; (b) the extent to which the uterus and Fallopian tubes are involved; (c) the presence or absence of septic changes in the fluid.

Atresia of the cervix is more serious than an imperforate hymen, and hæmatosalpinx a graver lesion than hæmatometra. So also a pyosalpinx or a pyometra is much more dangerous than a hæmatosalpinx or a hæmatometra.

CASES.

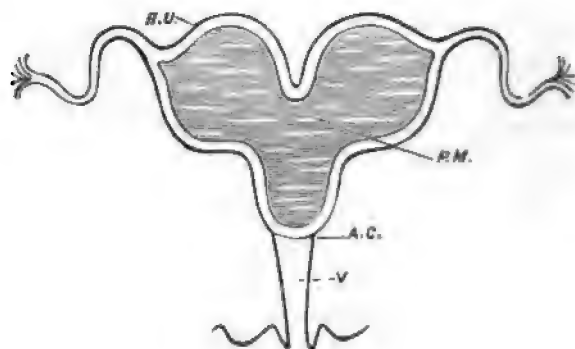
Altogether I have had under my care twelve cases of menstrual retention. I think that a brief account of each may be instructive as illustrating different types of the lesions, the various complications that may be met with, and the different lines of treatment that may be necessary.

CASE 1.—Congenital Atresia of Cervix, Bicornuous Uterus; Pyometra. In 1890, a single woman, aged 26, came to me with a long history of scanty and painful menstruation and a profuse greenish purulent vaginal discharge. Finally, for some months her menstruation ceased altogether, the pelvic pains increased in severity, and she developed febrile symptoms.

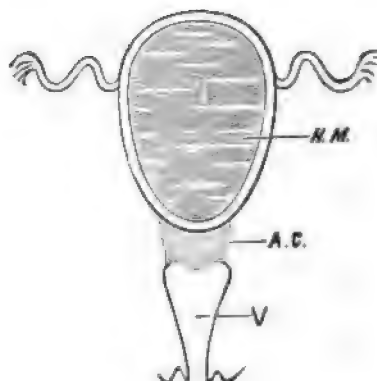
On examination, the cervix was small and presented no trace of an os. On either side of the uterus was felt what was diagnosed as a distended Fallopian tube, a pyosalpinx. Her abdomen was opened by Mr. Lawson Tait, whose assistant I was, and it was then evident that the condition was one of a bicornuous uterus distended with fluid, the two horns being the structures which had simulated distended Fallopian tubes. The abdominal wound was closed and the uterus was opened *per vaginam*, when a large quantity of stinking pus was evacuated. A rubber drainage tube was passed up through the vagina

into the uterus. On introducing the forefinger through the cervix one could easily feel the uterine cavity branching like the letter Y into two distinct horns.

The patient made an excellent recovery from the operation, and had no recurrence of her old trouble.



CASE 1.—*B.U.*, bicornuous uterus ; *P.M.*, pyometra ; *A.C.*, atresia of cervix ; *V.*, vagina.

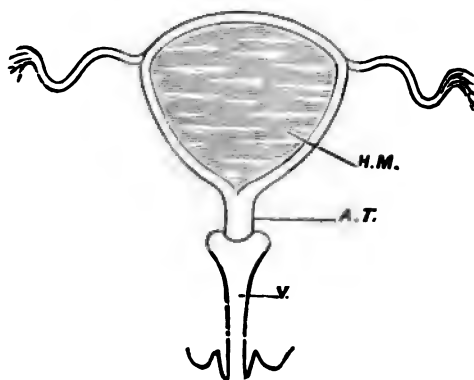


CASE 2.—*H.M.*, hæmatometra ; *A.C.*, atresia of cervix ; *V.*, vagina.

CASE 2.—*Acquired Atresia of Cervix ; Hæmatometra.* A married woman, aged 38, came to me suffering from epithelioma of the cervix. I admitted her into the Women's Hospital, and performed supravaginal amputation of the cervix, using Paquelin's cauterizing knife to divide the uterine tissues. She made a good recovery from the operation, and I saw nothing of her for nearly six months.

She then came complaining of dreadful colicky pelvic pains, and that "she could not pass her courses." On examination I found the cervix completely occluded by cicatricial contraction and the fundus distended with retained menstrual blood. With some difficulty, under chloroform, I re-opened and dilated the closed cervical canal and evacuated several ounces of tarry blood. She afterwards menstruated regularly every month, although still with a good deal of pain.

CASE 3.—*Congenital Atresia of Cervix; Hamatometra*. A single woman, aged 24, came to me in September, 1894, complaining of severe pain in the left lower abdomen, worse at the menstrual periods. Every four weeks she was "unwell" for two or three days, but the discharge was extremely scanty and almost serous. On examination the cervix was found practically occluded, not even admitting a probe. Above it the enlarged body of the uterus could be felt distended with fluid, about the size of a three months' pregnancy.

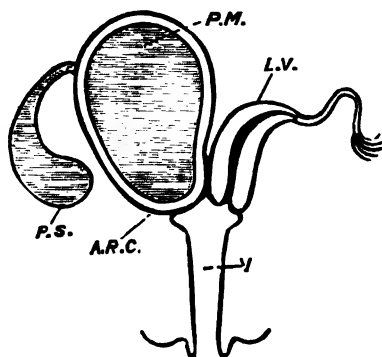


CASE 3.—*H.M.*, hæmatometra ; *A.T.*, atresia of cervix ; *V.*, vagina.

I admitted her into the Women's Hospital, and on October 5, 1894, I dissected up through the tissues of the cervix until I reached the distended cavity of the uterus. This was freely opened and a quantity of thick chocolate-coloured, but perfectly sweet, blood escaped. The mucous membrane of the uterus was then drawn down and sewn to that of the vagina. The uterine cavity was washed out with iodine water, and an iodoform gauze drain inserted. She made an excellent recovery. Her periods became normal in every way, occurring every four weeks, lasting four days, the flow being moderate in quantity, natural in appearance, and the patient quite free from pain. In January, 1895, she married, and in May, 1895, she became pregnant. I last saw her in December, 1895, and she was then seven months pregnant.

The cervix was large, soft, and dilatable, the vagina long and capacious, and there was no sign of stricture in any part. In this case, although I failed to discover it, there was probably a minute channel leading from the uterus to the vagina, through which at each period some of the watery part of the menstrual discharge escaped. There were no signs of distension or inflammation of the Fallopian tubes.

CASE 4.—*Double Uterus, Congenital Atresia of Right Cervix; Pyometra, Pyosalpinx.* This patient, married, aged 40, was sent to me by Dr. McCarthy, of St. George's, Salop, in April, 1895. She had had two children and several miscarriages. During her last miscarriage it was noticed that there was a hard globular tumour to the right of the uterus. After the miscarriage she developed a sub-acute septicæmia, which recurred in repeated attacks. These attacks were characteristic. Before each febrile onset the pelvic tumour enlarged, became hard and tender,



CASE 4.—*P.M.*, pyometra; *P.S.*, pyosalpinx; *L.V.*, left half of double uterus; *V.*, vagina; *A.R.C.*, atresia of right cervix.

and pushed the uterus over to the left side of the pelvis. The attack was marked by pelvic pain, rigors, high fever, sweating, and sometimes vomiting. It culminated in a copious discharge of very foetid pus which poured out of the cervix. After the discharge of this pus the pelvic tumour became smaller, and the septic symptoms for a time subsided. In fact, she only enjoyed good health as long as foetid pus came freely away.

On examination there was felt to the right of the uterus a tense thick-walled cystic swelling about the size of a cocoanut, quite fixed by adhesions. The uterine cavity curved to the left side, the tumour bulging markedly into it. On pressing the mass from above pus could be made to run out of the external os. Under an anæsthetic I made an incision in the vaginal roof to the right of the external os and laid the tumour

freely open into the vagina, evacuating many ounces of very offensive pus. On passing the sound into the uterus and on making a bimanual examination (with a finger of one hand introduced into the abscess cavity, and the other hand above the pubes), it was evident that I was dealing with a case of double uterus, the left of which was patent, and the right occluded and distended with pus. Between the two cavities a thick muscular septum intervened. With scissors I divided the lower part of this septum. I washed out the suppurating cavity with iodine water and packed it lightly with iodoform gauze. The gauze was removed at the end of forty-eight hours and a rubber drainage tube inserted. The patient made a good recovery from the operation.

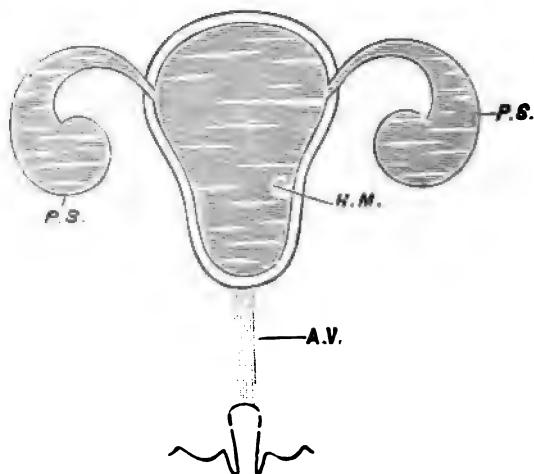
For two or three months I kept the opening patent by means of a small rubber drainage tube, and as long as this was *in situ* she enjoyed excellent health. I then ventured to dispense with it, but found that the opening I had made quickly contracted and she got a recurrence of the old trouble. I twice had to dilate the opening and reinsert the rubber tube. At this time her cervix presented a curious appearance. There was a right and a left os (one going to either half of the double uterus) separated by the lower edge of the septum. In fact, it was somewhat like the muzzle of a double-barrelled gun or the end of an elephant's trunk.

Finally, the opening made completely closed and retention of the menses, with severe complications, again supervened. As the patient was becoming pyæmic, I removed the double uterus by vaginal hysterectomy in August, 1900. The two uterine bodies were quite distinct, the peritoneum dipping down between them as far as the internal os. The two cervical canals were separated by a septum of fibrous and muscular tissue, but the two lumina were quite distinct. Both Fallopian tubes were distended with pus and desperately adherent. The patient made a very slow recovery, but ultimately got quite well.

CASE 5.—*Congenital Atresia of Vagina; Hamatometra, Pyosalpinx.* A very delicate anæmic girl, aged 17, who had never menstruated, was sent to me by Dr. Davidson, of Appleby Magna, in May, 1895. For twelve months she had had a slowly increasing tumour in the abdomen. She had constant pain in this swelling, but every four weeks this pain became much worse and colicky in character. She was getting thinner, had night sweats, but no cough. Both breasts were enlarged, the areolæ darkened and the tubercles prominent. No fluid could, however, be expressed from the breasts. Rising out of the pelvis, filling the lower half of the abdomen, and reaching to the umbilicus was a tense, oval, elastic swelling, closely resembling a six months' pregnancy. It contracted intermittently. On auscultation, a bruit could be heard on either side. On each side of the swelling the Fallopian tube could be very distinctly palpated as a big coiled sausage-shaped tumour, nearly as large as the closed fist. The vagina was found to be a mere cul-de-sac which ended blindly one inch above the hymen. No trace of a cervix could be detected, but on rectal examination the lower pole of the

abdominal tumour could be felt high up in the pelvis. With a finger in the rectum and a sound in the bladder it was evident that, above the vagina and below the swelling, the bladder and rectum came into contact.

I admitted her into the Women's Hospital on May 23, 1895, and under chloroform incised the vaginal cul-de-sac, and dissected up between the rectum and bladder for about two inches. I then came to the wall of the distended uterus which I incised freely, evacuating over a quart of thick treacly, but perfectly sweet blood. I washed out the cavity with a solution of lysol, sewed the uterine to the vaginal mucous membrane, and packed both the vagina and the uterus with iodoform gauze. This was removed at the end of forty-eight hours, and the

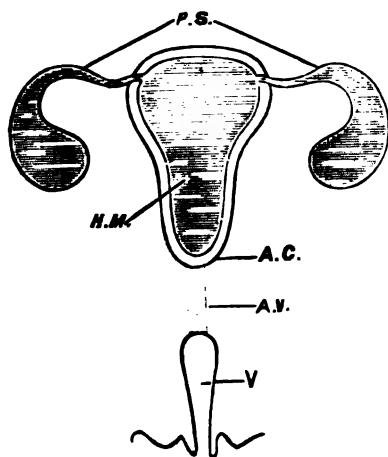


CASE 5.—*P.S.*, pyosalpinx; *H.M.*, hæmatometra; *A.V.*, atresia of vagina.

genital canal was afterwards douched night and morning with iodine water. The uterus, after being emptied, contracted and shrank into the pelvis. The distended Fallopian tubes remained in the abdomen just above the brim of the pelvis and continued swollen, tense and tender. For about a week the patient's general condition was fairly satisfactory, and throughout the discharge from the uterus remained perfectly sweet. At the end of the week the Fallopian tubes became more painful and more swollen, and she developed septic symptoms. Peritonitis then supervened and it was evident that her only chance lay in abdominal section. On June 8 I opened her abdomen, and found both Fallopian tubes greatly distended with thick, green, very fœtid pus. I removed

both uterine appendages. They were densely adherent to large and small intestine, and their removal was extremely difficult. The left tube burst during the process of separation, and fouled the peritoneum with septic pus. I irrigated and drained the abdomen, but the patient died of peritonitis forty-two hours after the operation.

This case was an instructive one, and raised several interesting questions. When I first saw her—before the first operation—both the uterus and Fallopian tubes were distended with fluid. Was the fluid in the tubes merely aseptic blood, or was it purulent even then? Were the Fallopian tubes distended by a back flow from the uterus? Ought I not to have opened the abdomen and removed the



CASE 6.—*P.S.*, pyosalpinx; *H.M.*, hæmatometra; *A.C.*, atresia of cervix; *A.V.*, atresia of vagina; *V.*, vagina.

tubes at the same time that I evacuated the uterus? From the general appearance of the distended tubes, from the character of their contents, and from the density of their adhesions to surrounding organs, I was forced to the conclusion that I was dealing with an old double pyosalpinx of many months standing. Originally the tubes had undoubtedly been distended with aseptic blood (double

hæmatosalpinx). This blood had become infected and converted into pus. Whence came the infection? I believe, through the adherent bowel wall. As long as the tubes were not disturbed, all went well. But when it was emptied, the uterus retracted into the pelvis, dragged on the tubes and caused some leaking of their purulent contents into the peritoneum, thus lighting up an acute peritonitis. Had I to deal with the case over again, I should open the abdomen (immediately I had opened the uterus from the vagina) and remove the appendages.

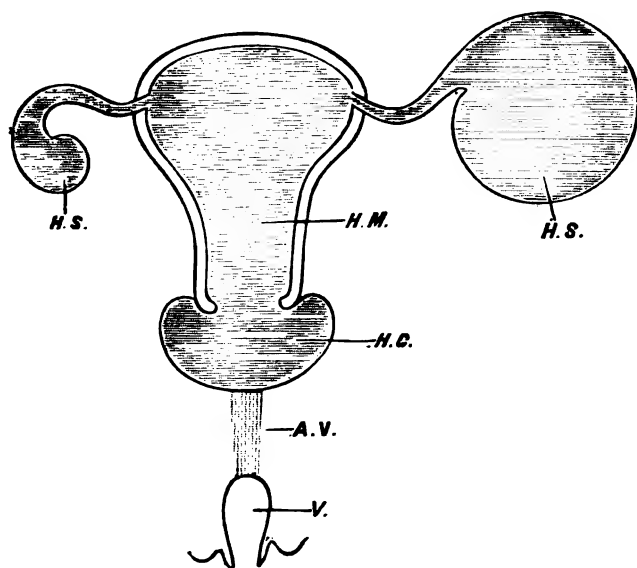
CASE 6.—*Congenital Atresia of Cervix and Upper Vagina; Hæmatometra, Pyosalpinx*.—This patient was single, aged 19, and very delicate and anæmic. She had a history of severe pelvic pain with monthly exacerbations, but had never menstruated. On examination I found atresia of the upper part of the vagina and cervix, moderate distension of the body of the uterus with menstrual fluid, and in addition distension of both Fallopian tubes. I admitted her into my private hospital, and on December 12, 1895, I attempted to reach the uterine cavity *per vaginam* but failed. I then opened the abdomen and found both the Fallopian tubes distended with thick pus and the uterus moderately distended with blood. I performed total extirpation of the uterus and both ovaries and tubes (pan-hysterectomy). The patient suffered from marked shock after the operation, but rallied and ultimately made a very satisfactory recovery.

This case should be compared with case 5, which it somewhat resembles. It should be observed that whilst the uterus was distended with blood, the tubes were distended with pus.

CASE 7.—*Congenital Atresia of Middle Half of Vagina; Hæmatocolpos, Hæmatometra, Hæmatosalpinx*. The patient was aged 19 and was single. She came to me complaining of a steadily increasing tumour in the abdomen, of severe colicky pain in the abdomen, and of total absence of menstruation. Although she had never menstruated she had had, since the age of sixteen, monthly attacks of abdominal pain, and for nearly twelve months she had noticed a tumour, which month by month grew larger, rising out of the pelvis.

On examination I found the vulva normal and the hymen normal, but the vagina ended blindly one inch above the hymen. On passing a sound into the bladder and a forefinger into the rectum, it was evident that bladder and rectum came into contact for three inches above this point, and higher up the lower pole of a large cystic swelling could

be felt by the finger in the rectum. On examining the abdomen this same swelling could be felt rising up to the level of the umbilicus. It had many of the physical characteristics of a gravid uterus: it was a pear-shaped mesial cystic swelling which contracted intermittently; on auscultation a bruit could be heard over it. Above and to the left of this mass was a second one about the size of a man's closed fist, and freely mobile. It could be pushed up into the left renal region, and down into the left iliac fossa, and physically resembled a movable left kidney. To the right of the mesial tumour was a smaller mass about the size of a hen's egg.



CASE 7.—*H.S.*, hæmatosalpinx; *H.M.*, hæmatometra; *H.C.* hæmatocolpos; *A.V.*, atresia of vagina; *V.*, vagina.

I admitted her into the Women's Hospital, and on October 6, 1896, I opened the abdomen, and found, as expected, that the central tumour was the uterus distended with menstrual blood (hæmatometra). It was quite as large as the uterus at the sixth month of pregnancy. The masses on either side proved to be Fallopian tubes distended with blood (hæmatosalpinx). That on the left side was distended at its abdominal end into a globular mass four inches in diameter, and connected to the uterus by a very long pedicle.

The upper fourth of the vagina was also distended with retained menstrual blood (hæmatocolpos). I first incised the uterus in the

middle line and evacuated a large quantity of thick treacly blood. The cavity was then irrigated and sponged out so as to remove all the thick glairy fluid that remained. The broad ligaments were ligatured (external to the ovaries and tubes) and divided as in abdominal hysterectomy. The uterine arteries coursing up the lateral borders of the uterus were then tied on each side. Having thus controlled the circulation, the uterus was amputated by a horizontal incision at the level of the internal os, and removed together with both ovaries and tubes.

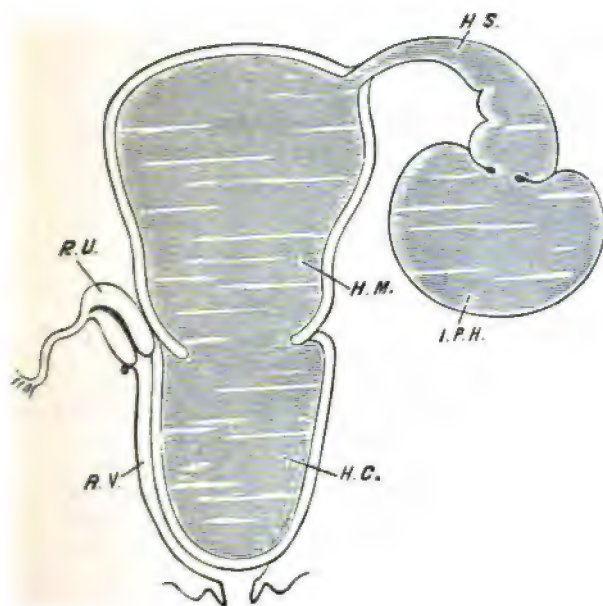
There still remained in the wound the cervix (widely dilated) leading into the dilated portion of the upper end of the vagina. As it was evident that this latter could not safely be extirpated, I decided to drain it through the abdominal incision. The cervix was accordingly fixed by eight silkworm gut sutures into the lower angle of the incision, the internal os being flush with the level of the skin. The sutures were passed in such a way as to shut off the peritoneal cavity securely. A glass drainage tube was passed through the gaping cervix down to the bottom of the sac, and the rest of the abdominal wound closed in the ordinary way. The patient made an excellent recovery. There was no shock and no untoward symptoms during convalescence. The cervical canal now opens at the lower end of the cicatrix by a small mucous fistula. This exudes a little glairy mucus, but does not in any way trouble the patient.

CASE 8.—*Double Vagina and Double Uterus; Congenital Atresia of Left Vagina; Left Hematocolpos, Left Hematometra, Left Hematosalpinx.* A girl, aged 15½ years, was brought to see me in July, 1897, by Dr. Haig, of Coventry, with the following history. She began to menstruate in March, 1896, and was quite regular till August in that year. She then went to the seaside and her periods stopped for two months, otherwise she was quite well. At Christmas, 1896, whilst menstruating, she suddenly felt a severe pain in the left lower abdomen and became very sick. On examination a lump was felt in the left iliac fossa. After the period this swelling decreased in size and almost disappeared. At the next period in January, 1897, she had very little pain. At the end of February the pain returned, lasted the whole of the period, and did not entirely disappear after the period. From this time onwards, until I saw her in July, she had a constant, dull, aching pain in the left abdomen, with violent spasmodic exacerbations during each period. She had, however, no febrile symptoms and no loss of flesh.

On examination of the abdomen a tense fixed cystic swelling was found rising out of the pelvis, filling the left half of the lower abdomen and reaching almost to the umbilicus. It was about the size of a five months' pregnancy. On vaginal examination a tumour was found, cystic in character, filling the left half of the pelvis, extending down on the left side of the vagina and bulging at the vaginal orifice.

On July 23, 1897, the patient was anæsthetised and placed in the lithotomy position, and the cystic swelling to the left of the vagina

freely incised. A large quantity of dark brown, treacly blood poured out. This was washed out, and on examination it was evident that it had been retained within the occluded left vagina and uterus. She had a double uterus and a double vagina, the right half of which was patent, and through this she had menstruated normally. The left vagina was occluded, and the blood from the left uterus had been dammed up in it and in the uterus itself. The two vaginæ were separated by a thick muscular partition. On making a bimanual examination a large cystic swelling about the size of a man's fist, evidently a distended Fallopian

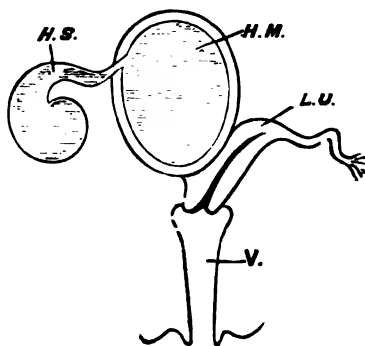


CASE 8.—*R.U.*, right half of double uterus; *R.V.*, right half of double vagina; *H.C.*, hæmatocolpos; *H.M.*, hæmatometra; *H.S.*, hæmatosalpinx; *I.P.H.*, intraperitoneal hæmatocele.

tube, was found high up to the left of the uterus. As it was obvious that this would not drain away *per vaginam*, and there was danger of septic infection of its contents, I decided to open the abdomen at once in the middle line. As I had anticipated, the mass was found to be the left Fallopian tube, distended with blood to the size of a large sausage. Its outer end passed into a localised intraperitoneal hæmatocele similar to that which is frequently met with in cases of tubal pregnancy. I incised the distended tube and emptied it of its contents, and at the

same time washed out the blood of the hæmatocele ; I did not, however, remove the tube. The abdomen was closed in the usual way and the vagina lightly packed with iodoform gauze. The patient made an excellent recovery, got out of bed on August 16, and returned home on August 24. Since then she has remained perfectly well and has menstruated regularly.

In this case there was a double uterus (each with its own Fallopian tube and ovary) and a double vagina. The right vagina and uterus were patent, the left were occluded and distended with menstrual blood. This blood had been forced back through the left Fallopian tube, distending it into a hæmatosalpinx, and this in its turn had leaked into the peritoneum and formed an intraperitoneal hæmatocele. Fortunately for the patient the retained menstrual blood was evacuated by operation before it had become infected. At the present time, just within the vulva, there are two openings easily admitting the forefinger, the one leading to the right vagina and right uterus, and the other to the left vagina and uterus.



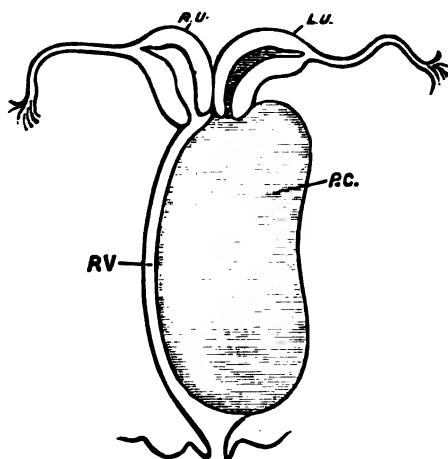
CASE 9.—*L.U.*, left half of double uterus ; *H.M.*, hæmatometra ; *H.S.*, hæmatosalpinx ; *V.*, vagina.

CASE 9.—*Double Uterus, Congenital Atresia of Right Cervix ; Right Hæmatometra, Hæmatosalpinx.* A woman, aged 29, married nine years and a half, never pregnant, consulted me on June 27, 1898. She complained of intense pain at her periods, which got worse each month. The periods were regular, lasted five days and were profuse. The pain was colicky, was felt on the right side of the lower abdomen, began two days before the period, and lasted all the time. For some

years she had noticed a lump on the right side of the hypogastrium. It got larger at each period, and was slowly increasing.

On examination a round mass about the size of a three months' pregnancy was felt to the right of the uterus and merging into it. On June 30, 1898, I opened her abdomen and found that the mass to the right was the distended right half of a double uterus, the whole of which I removed. The right half of this double uterus did not communicate with the cervical canal, and was distended with retained menstrual blood, as was also the right Fallopian tube. The patient made a slow but complete recovery.

CASE 10.—*Double Vagina and Double Uterus; Congenital Atresia of Left Vagina; Pyocolpos.* This patient was aged 18, and was single. She was admitted into the City Hospital in December, 1898, suffering from scarlet fever. During her convalescence she had regular attacks of fever with pain in the left lower abdomen, and symptoms of severe



CASE 10.—*R.U.*, right half of double uterus; *R.V.*, right half of double vagina; *L.U.*, left half of double uterus; *P.C.*, pyocolpos.

septic absorption. At the same time the nurse noticed that there was a large quantity of very foetid pus escaping at intervals from the vagina, especially during micturition. Thinking that possibly she had a pelvic abscess, Dr. Millard asked me to see her, and on examination I found an elongated cystic swelling occupying the whole of the left half of the pelvis, and reaching down by the side of the vagina almost to the vulva; pus was escaping into the vagina through a small opening near the cervix.

I put her under an anæsthetic and made a free incision into this cystic swelling, letting out a large quantity of extremely foetid matter.

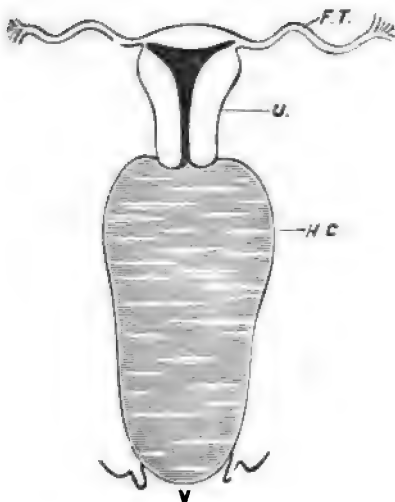
After washing this freely away I could feel at the very top of the cavity a small cervical opening. It was then evident that the case was one of double uterus and double vagina, occlusion of the left vagina, retention within it of the blood from the left uterus, subsequent decomposition of this blood, and the formation of a pyocolpos. The right uterus and vagina were patent, and through these the girl had menstruated regularly once a month. It was noticed, however, that at each month she had severe colicky pain in the left half of the pelvis. I cut away the thick and muscular septum between the two vaginæ, thus throwing them into one. After thoroughly disinfecting the vaginal sac I packed it with iodoform gauze, which was kept in for three days. This patient made an excellent recovery, and has since remained well.

I last examined her on March 28, 1899, when I found that the left half of the vagina had contracted practically to its normal limits. The remains of the septum could be felt as a ridge running down the mesial line of both the anterior and posterior walls and becoming distinctly raised as a crescentic fold at the top of the vagina. On either side of it was a cervical orifice. Since the operation the girl has menstruated regularly, each period lasting four days and practically without pain. As far as I can ascertain she menstruates from both uteri simultaneously; but as I have not had an opportunity of examining her during menstruation I cannot be sure of this fact. In this case there was no distension of the left uterus or Fallopian tube, the collection being confined entirely to the left vagina.

CASE 11.—*Imperforate Hymen; Hæmatocolpos*. On March 20, 1899, I was called to see, in consultation with Dr. George Elkington of Birmingham, a girl, aged 13½ years, who had not yet menstruated. She had been in good health until about two weeks previously, when she began to complain of backache, pain in the right lower abdomen and aching pains down the thighs. She had a good deal of difficulty in passing water. There was no sickness and no rigors. Her temperature was elevated, running to about 102° F. at night-time. In consequence of difficulty in passing water, Dr. Elkington examined the abdomen and found, rising out of the pelvis and reaching nearly to the umbilicus, a tumour which at first sight looked like a distended bladder. On passing a catheter, however, this swelling was found to be a cystic tumour behind the bladder. On separating the labia, a tense purplish-black swelling about the size of a goose egg was seen bulging down through the vulva. Dr. Elkington asked me to see her, and it was found that the vulvar swelling was an imperforate hymen bulged down by a collection of retained menstrual blood which distended the whole of the vagina. The swelling felt above the pubis was the upper pole of this vaginal collection.

The patient was put under an anæsthetic and the greatly thickened hymeneal membrane cut away with scissors, close to its vaginal attach-

ment. A large quantity of the characteristic viscid chocolate-coloured fluid was evacuated, and the vagina thoroughly cleansed by prolonged irrigation. The uterus had been raised up by the retained menstrual fluid in the vagina, but was not itself distended. The vagina was lightly packed with iodoform gauze, which was removed on the fourth day. The patient made an uninterrupted recovery, and has since remained perfectly well. She has menstruated quite regularly, has a fairly profuse flow, without any pain.

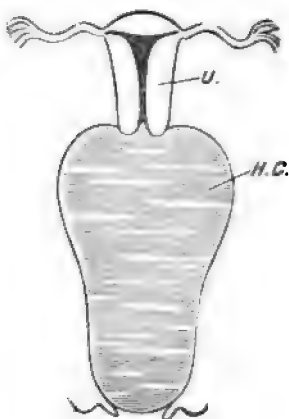


CASE 11.—*F.T.*, Fallopian tube; *U.*, uterus; *H.C.*, hæmatocolpos; *V.*, vulva, with imperforate hymen.

CASE 12.—*Imperforate Hymen; Hæmatocolpos.* This patient was single and aged 15, and was sent to me on August 18, 1901, by Dr. Davidson, of Appleby Magna. She had never menstruated, but complained of severe pains of a bearing down character coming on every month and lasting for a week. The last attack was about a month previously. She was getting worse every month, and lately had noticed a swelling in the lower part of the abdomen. At times the pain was so severe as to bring on vomiting. She had no febrile symptoms, no difficulty in micturition, and looked in excellent health.

On examining her I found a cystic swelling rising out of the pelvis and reaching nearly to the umbilicus. On making a vaginal examination I found the lower end of the vagina completely blocked by a tough membrane—the imperforate hymen. On making a rectal examination, the lower pole of the abdominal swelling could be felt in front of the rectum and behind the bladder. It was evidently a case of imperforate hymen causing menstrual retention in the vagina.

I took her into the Women's Hospital, and under an anæsthetic cut away the occluding membrane, evacuated the retained menstrual blood (which was perfectly sweet), washed out the cavity, and drained with iodoform gauze. The retention was confined to the vagina, the uterus and Fallopian tubes being raised up on the top of the vaginal swelling, but not distended. The patient made a very good recovery, and has since then menstruated normally.



CASE 12.--U., uterus; H.C., hæmatocolpos.

SUMMARY OF CASES.

In conclusion, let me briefly summarise these twelve cases.

The atresia was at the hymen in two cases (11 and 12); it was in the vagina in four cases (5, 7, 8, 10); it was in the cervix in six cases (1, 2, 3, 4, 6, 9). The uterus was bicornuous in one case (1). The uterus was double but the vagina was single in two cases (4, 9). There was both a double uterus and a double vagina in two cases (8, 10). The retention cyst consisted of the vagina alone, the uterus and tubes not being distended, in three cases (10, 11, 12). The uterus alone was distended in three cases (1, 2, 3). Not only the uterus but also the Fallopian tubes were distended in six cases (4, 5, 6, 7, 8, 9). The retained fluid was blood in seven cases (2, 3, 7, 8, 9, 11, 12); it was pus in three cases (1, 4, 10); that in the uterus was blood, that in the Fallopian tubes was pus in two cases (5, 6).

OBITUARY.

THOMAS VINCENT JACKSON, J.P., F.R.C.S.EDIN., &c.
SURGEON TO THE WOLVERHAMPTON AND STAFFORDSHIRE
GENERAL HOSPITAL.

THOMAS VINCENT JACKSON, a Fellow of this Society, and of great local repute as a surgeon, died on October 12, at his residence, Whetstone House, Waterloo Road, Wolverhampton, from pneumonia. Born in 1836, he qualified in 1857 as a Member of the Royal College of Surgeons, and in the following year as Licentiate of the London Apothecaries Company, becoming also a Fellow of the Royal College of Surgeons, Edinburgh, in 1883. Appointed House Surgeon to the Wolverhampton General Hospital in 1859, he was placed on the Honorary Surgical Staff in March, 1864. He was connected with several scientific societies, and frequently contributed to the medical journals. He had been President, afterwards Representative, in the Council of the Staffordshire Branch of the British Medical Association. He was also appointed a Justice of the Peace, respectively for the County Borough of Wolverhampton, and for Staffordshire. For a short period, formerly, he served the town of his adoption as Health Officer, and for many years in the Council, becoming Chief Magistrate in 1887. The first portion of the funeral service, of a public character, was conducted in the historical church of St. Peter, which was filled by a sympathetic congregation, and attended by the Mayor in his robes of office, many members of the

Council, Representatives respectively of the Magisterial Bench, General Hospital, the Staffordshire Branch of the British Medical Association, the local Profession, and the Queen Victoria Nursing Institution, which was mainly founded by his efforts. The interment took place in the family vault at the Highgate Cemetery, North London. He leaves a widow to mourn his loss, his first wife having pre-deceased him about ten years.

J. A. L.

Mr. Jackson was a Member of the Council of our Society from 1884-1886; a cordial appreciation of his life and work appeared in the *British Medical Journal*, October 26, 1901, and at the Meeting of the Staffordshire Branch of the Association the following resolution, proposed by the President, Mr. Folker, and seconded by the ex-President, Dr. Carter, was carried unanimously: "That the members of the Staffordshire Branch of the British Medical Association desire to record their deep sense of the loss which the Branch has sustained by the death of Mr. T. Vincent Jackson, who not only took a prominent part in the formation of the Branch in 1874, but ably filled the office of Honorary Secretary from that time until his nomination as President in 1888. The members of the Branch hereby convey to Mrs. Vincent Jackson their sincere sympathy with her in her bereavement, together with an expression of their grateful appreciation of her husband's long and active service on behalf of the Branch."

[With the feelings expressed in this resolution, we are sure that the Fellows of the British Gynæcological Society will cordially agree.—ED.]

REVIEWS.

OBSTETRICS : A MANUAL FOR STUDENTS AND PRACTITIONERS. By DAVID JAMES EVANS, M.D., Lecturer on Obstetrics and Diseases of Infancy, McGill University, Montreal, F.O.S.Lond., &c., &c. Illustrated with 149 engravings. Pp. 430, extra crown 8vo. London : Henry Kimpton, 1901.

This manual forms one of a series of pocket text-books edited by Dr. Bern B. Gallaudet, of Columbia University, New York, and professedly is intended for the use of students in attendance on lectures and junior practitioners in their everyday work. After a short description of the processes of menstruation and ovulation, the consideration of the changes in the maternal system and the care of the patient during normal pregnancy, is preceded by a sketch of the development of the foetus and its membranes and placenta. A clear and concise account of the anatomy and mechanism of labour follows, and here as elsewhere in the book the illustrations are well chosen, particularly so as regards the position of the child. The directions as to antiseptics of patient, nurse, and obstetrician are lucid and short, and preliminary vaginal irrigation is forbidden in normal cases. The importance of external examination is laid down, and the general conduct of labour and child-bed well described.

The remainder of the book is devoted to the pathology of pregnancy, labour, and child-bed, and to a description of the various obstetric operations. Though the text is necessarily condensed and excusably dogmatic, the rules laid down are sound, and the book will prove a useful guide to

those for whom it is intended. The author lays more stress on emotional fever than is generally done, but very properly says that a puerperal temperature of 101° F. for twenty-four hours is almost certain to mean septic infection unless some other cause can be found. He admits auto-infection in exceptional cases, and thinks that when infection is due to the streptococcus alone, serotherapy may, if used early and in large doses, be employed with a fair prospect of success.

GYNECOLOGY: A MANUAL FOR STUDENTS AND PRACTITIONERS. By MONTGOMERY A. CROCKETT, M.D., Adjunct Professor of Obstetrics and Clinical Gynecology, Medical Department University of Buffalo, attending Gynecologist to the Buffalo General and Erie County Hospitals. Illustrated with 107 engravings. Extra crown 8vo. Pp. 368. London: Henry Kimpton, 1901.

This book is also one of the series of pocket text-books edited by Dr. Gallaudet. It exhibits in a reasonable compass the essential features of gynæcology, and the author has embodied in his condensation of the accepted views of the best gynæcological authorities the results of his own experience and practice, with the result that he is somewhat dogmatic, and at all events, as to his condemnation of silk in favour of catgut for all intra-abdominal sutures and ligatures, has elicited dissenting notes from his editor.

The arrangement of the work is somewhat unusual. Operations follow local treatment early in the book, menstruation and its disorders are comparatively late, and are separated from metritis by the chapters on the urinary organs, on tumours, and on displacements; malformations and tuberculosis are treated last, after sterility, ectopic gestation, puerperal and non-puerperal injuries and fistulæ. This is, however, of less account, as the excellent print and prominent sub-titles and head lines, with a fair index, make

it easy to find one's place. The illustrations are mostly familiar, as may be expected in a work of the kind ; several from Bland-Sutton and other English authors.

POINTS OF PRACTICAL INTEREST IN GYNÆCOLOGY. By H. MACNAUGHTON-JONES, M.D., M.Ch., Q.U.I., Master of Obstetrics (Honoris Causâ), Royal University of Ireland, &c., &c. With 18 plates. Second edition. Demy 8vo. Pp. xii. and 137. London : Baillière, Tindall and Cox. Price 4s. 6d. net.

The first edition of this work met with such approval that it was exhausted in a few months ; the present issue is enlarged by a chapter upon retroversion of the uterus, and an appendix containing some important recent contributions on the degenerations of myomata. The value of the book is materially increased by these additions. The latter point especially is one upon which the views of the profession have been greatly modified quite recently. The plates are extremely good, both as regards illustrating the text and as to the way they are executed, and we have no doubt this edition, like the last, will find a large circulation.

UTERINE FIBROMYOMATA, THEIR PATHOLOGY, DIAGNOSIS AND TREATMENT. By E. STANMORE BISHOP, F.R.C.S. Eng., with 49 illustrations. London : Rebman Ltd., 1901. Pp. 324. 8vo.

In the preface to this work Mr. Bishop tells us that his object has been to supply a comprehensive view of the subject to those who cannot spare the time and pains necessary to follow its voluminous literature, scattered as it is through medical journals of all kinds and in all countries. In this we think he has been successful, and we have no doubt the work will be welcomed not only by surgeons but by those whose duty it is to advise patients suffering from this disease as to their future course. We

also think the plan which our author has adopted of first giving a general view of the subject, as he has done in chapters 1 and 8, and subsequently dealing with matters in greater detail, is an excellent one. Perhaps the most important matters connected with fibromyomata, are the much debated questions as to what are the actual dangers attending these tumours, and how are such cases to be treated? and Mr. Bishop has devoted the greater part of his book to their consideration. It may appear to some that he has assumed the rôle of an advocate of early operation rather than that of an impartial judge, and that the picture which he has drawn of the condition of patients suffering from the disease is too gloomy; but we imagine that he has been driven into this position by the optimistic views expressed by others, who have represented the condition as one seldom if ever dangerous to life and which undergoes a spontaneous cure at the menopause; and it is evidently one of the chief objects of this work to show that fibromyomata of the uterus are by no means the harmless growths that such teachers would have us believe, but that on the contrary, they may prove fatal either directly or indirectly, and that even where they do not do so the patients suffering from them are often condemned to a life of chronic invalidism. The direct causes of death are hæmorrhage, changes in the growth and twisting of its pedicle. The indirect causes are atrophy of the cardiac muscle, obstruction of the ureters, or intestine, profound anæmia, which renders the patient unable to combat with current diseases, and embolism; but should the patient escape these dangers she is often condemned to a life which he truly describes as little better than a vegetative existence. The hoped for menopause is generally postponed or prolonged, and should the tumour become fibrocystic, or oedematous, it will bring no relief. A point, too, of the greatest importance, upon which he lays especial stress is, that delay and ineffective treatment immensely increase the risk of operative interference owing to the dangers imported

into it, owing to changes in the tumour itself and in the parts around it. These dangers arise from adhesions which prolong the operation, alter the relations of parts, rendering probable the wounding or laceration of gut or ureter; the development of the growth into the broad ligament distending the meso-sigmoid or meso-cæcum, which after enucleation of the tumour might be followed by obstruction or gangrene of the gut; leakage of infective material in sloughing myomata and pyosalpinx; cardiac atrophy; profound anæmia and phlebitis, and in this connection he quotes with approbation Bland Sutton's opinion that "it is becoming a plain duty to point out to patients with uterine myomata that the earlier the tumours are removed the less the operative dangers, and therefore the more diminished the peril to life."

Anatomy, development and secondary changes are not exhaustively dealt with; the first is regarded from the surgical aspect, and describes the vascular supply and relations of the uterus to surrounding parts, and the alterations in those relations due to the growth of tumours. In regard to the origin of fibromyomata he agrees with Pilliet, who considers that they arise in the adventitia of the uterine capillaries, but he does not supply any new argument in favour of this theory. Diagnosis is very fully dealt with, and the supreme value of bimanual examination, especially the recto-abdominal method, duly emphasised. The dangers arising from the incautious use of the uterine sound are dwelt upon, many cases of septicæmia having been caused by it, and in general he says it should be avoided, and evidence as to the interior of the uterus, if needed, can be obtained in a much better and safer way by dilatation of the cervix.

More than half the work is devoted to treatment. The rôle of medicine is in his opinion a small one, and the prolonged use of drugs useless, and it wastes time, permitting the occurrence of complications which greatly increase the risk of subsequent intervention and defrauds the patient with delusive hopes of the disappearance of the growth, which are

inevitably doomed to disappointment. These remarks apply not only to drugs but also to baths, such as Kreuznach, and to the use of steam, which he wrongly states is called *zestocausis* by Pincus. *Atmocausis* was the term introduced by him for the application of steam; *zestocausis* to a cautery heated by steam; but this was probably a *lapsus calami*. We are rather surprised by his laudation of electricity, to the consideration of which he devotes an entire chapter, and which he says is powerful for good.

Most of the operations recently introduced for the treatment of fibromyomata are briefly described and discussed, and the following are recommended. Myomectomy or enucleation, abdominal or vaginal, abdominal panhysterectomy, vaginal panhysterectomy, and a combination of these two methods. He is in favour of the vaginal operation when it is possible; a modification of Kelly's abdominal operation, but removing the cervix; or panhysterectomy by a combined vaginal and abdominal operation commencing from below. We doubt very much if such a method will recommend itself to others. His views as to treatment are fairly epitomised when he says that fibromyomata may indeed almost be said to require nothing or to require electrical or surgical interference.

The last chapter, upon Final Results, is disappointing, but will be found to correspond with the experience of most operators as to the difficulty of following up the history of their cases.

The book is a good summary of our present knowledge of the subject with which it deals, and Miss Louise Bradbury deserves much credit for her admirable illustrations.

UEBER PUERPERALE ECLAMPSIE UND DEREN BEHANDLUNG.
VON DOCENT DR. LUDWIG KNAPP, Assistent in der deutschen geburtshilflichen Universitätsklinik in Prag.
Imp. 8vo. Pp. 50. Berlin: S. Karger. London: Williams and Norgate, 1900. Price 1s. 9d.

This monograph is a sequel to the author's article "Clinical Observations on Eclampsia," in the third volume

of the *Monatschrift für Geburtshülfe und Gynäkologie*, and is practically without alteration, the Thesis presented by Dr. Knapp on qualifying as Privat-docent. It is based on nineteen cases seen during three recent years in the Prague Clinic, where, as elsewhere, the frequency of eclampsia proves to be increasing. The cause of the disease is now generally admitted to be the retention of some undetermined toxin in the system; its clinical aspect Knapp compares with strychnine poisoning. As to treatment, Dührssen's principle of emptying the womb as soon as possible is generally adopted at Prague, the mode of delivery being chosen so as to spare the mother in every possible way. Knapp recommends the use of morphia and the avoidance of the more serious obstetric operations, such as rapid dilatation of the genital canal, though such dilatation is much less dangerous than the extraction of a perforated foetus through passages not sufficiently prepared for delivery. We are surprised that the rupture of the membranes is not mentioned as a means of hastening delivery; it is a comparatively simple method and frequently effective. Perforation of a living child was performed in four instances, which seems an unfortunately large number; it may, however, be remembered that the eclamptic condition is very unfavourable for Cæsarean section, the results of which, as recorded by Küstner, Everke and Biermer, are far from encouraging.

CONSULTATIONS DE GYNÉCOLOGIE A L'USAGE DES PRATICIENS. Par le Dr. G. DE ROUVILLE, professeur agrégé à la Faculté de médecine de Montpellier. Préface par le Dr. J. LUCAS-CHAMPIONIÈRE. 1 vol. in 8 de 247 pages avec 72 figures noires et coloriées. 5 fr. Librairie, J. B. Baillière et Fils, 19, rue Hautefeuille, à Paris.

To an English reader the title of this work would suggest that it described a series of cases with their histories and symptoms, and discussed their diagnosis, probable course and treatment, but it is rather *précis* of gynæcological

therapeutics, in which the various subjects are arranged alphabetically for convenience of reference by the student or practitioner.

To make such a *précis* is by no means an easy task; to state clearly all that is indispensable and exclude all that is unimportant, to make prominent all fundamental points and omit all that may merely confuse without instructing the reader, who is too busy in practice to study the particular subject thoroughly, requires a special talent for teaching. The author has previously published a similar work on surgery which has been favourably received, and we consequently would have expected to find the present one more systematic, or that the title of the book should have indicated its limitations. His choice of subjects is quite arbitrary, for it is difficult to see why cysts of Bartholin's glands and of the vagina should be included and those of the ovary not mentioned, or why lumbar anæsthesia should be described, and nothing said of local anæsthesia or any method of narcosis.

Naturally the methods of the French school are chiefly recommended, but by no means to the exclusion of others. As far as the individual affections go the directions given are clear and lucid, and the analysis of the different conditions by which they may be complicated are carefully followed out. The illustrations are well selected from many sources, English and German, as well as French. Indeed, there is much to make the book a useful work of reference upon such matters as are included in it.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By CHARLES E. DE M. SAJOUS, M.D., &c., &c. Volume VI. Rectum and Diseases of the Anus to Zinc, and General Index; with chromolithographs, engravings and maps. Large 8vo. Pp. viii and 1,043. Philadelphia: F. A. Davis and Co., 1901.

This volume completes the first series of a valuable work in which Dr. Sajous records the progress made in the last

decade in connection with all the general diseases usually described in text-books. This information is supplemented by copious excerpts from recent medical literature upon all those subjects as regards which it has not been thought better to incorporate the new ideas in the text, or in regard to which little or nothing new has been contributed in the past ten years.

In gynæcology the diseases of the uterine adnexa have been entrusted to Professor E. G. Montgomery, of Philadelphia ; those of the uterus to Professor H. T. Byford, of Chicago ; while those of the vagina and vulva are under the care of Dr. A. F. Currier, of New York, the mention of whose names is a guarantee that these subjects have been adequately treated considering the limited space at their disposal. In obstetrics, many of the methods which form the basis of every accoucheur's education are seldom if ever modified, and such are omitted to leave room for those which are undergoing change. There is, indeed, little in connection with midwifery in this volume, the more important advances having been included in the article on Abnormal Parturition in the previous volume of the work, noticed in this journal last year (vol. xvi., p. 262).

Dr. Sajous, whose aim has been to offer the general practitioner a clear outline of the entire field of practical medicine, including specialities, is to be congratulated on his success. The publishers deserve great praise. Though there are more than a thousand pages, the book is not over heavy ; it opens fully and easily in its strong neat binding, the printing is admirable, and the illustrations well selected and well executed. We note particularly the coloured plates illustrating the progressive caseation of pulmonary tuberculosis and the microscopic histology of tumours, and also the woodcuts in Professor R. H. Sayre's article on diseases and injuries to the spine. The magnification of the microscopical sections has been indicated in some instances, a practice that we would wish to see universally adopted. The index is admirably done, with numerous cross references.

A SYSTEM OF PHYSIOLOGICAL THERAPEUTICS. A practical exposition of the methods, other than drug giving, useful in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN. Vol. i, Electrotherapy, by GEORGE W. JACOBY, M.D., in two books. Book 1, Electrophysics; apparatus required for the Therapeutic and Diagnostic use of Electricity. Book 2, Diagnosis; Therapeutic Methods; Special Electrotherapy. London: Rebman Ltd. In 11 volumes. 10s. per vol. net.

We have in this volume on Electrotherapy the first of a series of eleven volumes, which will complete a work of a unique character. Methods of treatment, other than that by drugs, will be set forth fully, clearly and authoritatively. There will be a complete survey of the means and methods of applying such treatment as may be included under the following heads: Pneumatotherapy, Climatotherapy, Balneology, Hydrotherapy, Diet, Artificial light, Rest and Exercise, Prophylaxis, &c., &c.

This first volume on Electrotherapy consists of two books. They are well printed, the illustrations are numerous and excellent and the matter is put forth so clearly and yet fully, that it may be of service even to one with hardly any previous knowledge of electricity.

The first book is descriptive of all the apparatus required for the intelligent and purposeful application of electricity in treatment. We suspect that the infrequent use of this therapeutic agent is largely due to two reasons. Firstly, the expense of the apparatus, and secondly, a complete ignorance of how to use it. Anyone can be fully enlightened by these volumes.

In the second book there are special sections devoted to the application of electricity in general surgery, in diseases of the eye, the ear and the throat, and in gynæcology. It is to this last section that we would specially refer. Unlike most authors on this question, Dr. Franklin H. Martin, who

writes this section, does not claim electricity as a means of cure for all the special ailments of women. What he says is so lucid and to the point that no one can suffer confusion. He claims it as of immense advantage in chronic metritis, in pelvic exudates where there is no pus, in dysmenorrhœa, neuralgia and from non-development of the uterus, and lastly, in fibroids of the uterus. In regard to the last of these the least we can say is that we do not in any way agree with him. We do not think it conducive to the best health and interest of the patient with a "bleeding fibroid" that she should submit to a prolonged and painful course of treatment, the ultimate result of which is so uncertain. We do not agree with him when he says "a fibroid of the uterus, if left alone, seldom proves fatal."

To any physician or surgeon, however, who is desirous of applying electricity, whether as a diagnostic or remedial measure, this volume will be a very great help.

We have also received more recently, and too late for review with the above, the third volume of the series, "Climatology and Health Resorts including Mineral Springs," by Dr. F. Parkes Weber, which we hope to deal with more fully in the future.

GYNÆCOLOGIA HELVETICA, herausgegeben von Dr. O. BEUTTNER, Privat-Docent a. d. Universität Genf. Erster Jahrgang (bericht über das Jahr, 1900), mit 23 illustrationen. Royal 8vo, pp. 155. Henry Kündig, Genf, and Emil Roth ; Giessen, 1901. Price 3 mks.

This work offers a concise epitome of all publications on obstetrics and gynæcology by authors resident in Switzerland. It is intended to appear yearly, and will contain abstracts not only of the articles in the *Correspondenzblatt für Schweizer-Aerzte*, the *Revue médicale de la Suisse romande*, and the *Bolletino medico*, but also of those articles published in other countries by Swiss writers, as well as condensed reports of all gynæcological work done in various medical societies in Switzerland.

The field of gynæcology necessarily overlaps the surgery of the urinary system, and intestines, especially in regard to the cæcum and appendix, and these branches of surgery will be kept within the purview of the work, as also embryology, and the bacteriology, histology, normal and pathological anatomy of the female genital organs.

Some of the most interesting pages of the present book, from the *Zeitschrift für Geburtshülfe und Gynäcologie*, give the results of a series of experiments made by the editor, in conjunction with Professor Jentzer, as to the effects of castration. In cows, the loss of the ovaries was found to be followed by atrophy, always affecting the uterine horns, but more constant in the muscular tissue, vascular and cortical layers than in the mucosa. In rabbits, a similar atrophy took place in spite of the administration of ovarian substance. The number of bitches submitted to castration was only four, but undoubtedly they suffered from a chronic atrophy of the vessels of the vascular layer.

Dr. Beuttner is convinced that obstetrical and gynæcological phenomena in animals offer a field of investigation which would be most fruitful in increasing our knowledge, and especially recommends Professor Zschokke's work "On the Cause and Successful Treatment of Sterility in Cattle" to the perusal of every gynæcologist. The Veterinary Act also furnishes articles on neurosis and paresis after delivery.

Some score of theses are abstracted; we notice that in one read at Lausanne by Dr. Razskazow, on the basis of twenty-two cases in Roux' Clinic, castration is warmly recommended in uterine fibroids in women who are not young, when a more radical operation is not indicated by the size of the tumour or by complications.

PUBLICATIONS RECEIVED.

We are compelled by pressure on our space to reserve particular comment on the following works :—

Transactions of the American Association of Obstetricians and Gynæcologists, vol. xiii. for the year 1900.

FROM ALQVIST AND WIKELLS, UPSALA :

Report of the Obstetric and Gynæcological Clinics at Upsala. By Dr. A. G. Lindfors.

FROM BAILLIÈRE ET FILS, PARIS :

Hæmatometrie et Hæmatocolpos dans le cas de Duplicité du Canal Genital. By Dr. G. Gross.

Hæmorrhages uterines et leur Traitement. By Dr. A. Zimmern.

FROM BAILLIÈRE, TYNDALL AND COX :

Menstruation and its Disorders. By Dr. A. E. Giles.

FROM JOHN BALE, SONS AND DANIELSSON :

The Bradshaw Lecture: The Association of Inguinal Hernia with the Descent of the Testicle. By Mr. John Langton.

FROM J. AND A. CHURCHILL :

Midwifery, 3rd Edition. By Dr. Henry Jellett.

Gynæcological Pathology. Dr. C. Hubert Roberts.

FROM S. KARGER, BERLIN (WILLIAMS AND NORGATE) :

Kehlkopf- Nasen- und Ohren-krankheiten. Dr. Richard Kayser.

Pathologisches Anatomie des graviden Tube. By Dr. August Peterson.

Händedesinfektionsfrage. By Dr. Richard Schaeffer.

FROM HENRY KIMPTON :

Text-book of Obstetrics, 3rd edition. By Drs. Grandin and Jarman.

FROM REBMAN, LIMITED :

The Student's Manual of Venereal Diseases, 7th Edition. By Drs. Sturges and Cabot.

FROM G. REIMER, BERLIN :

Die Krankenpflege : Monatsschrift fuer die gesammten Zweige des Krankenpflege und Krankenbehandlung im Wissenschaft und Praxis, No. 1, 1901.

FROM SIMPKIN, MARSHALL, HAMILTON, KENT AND CO. :

Braithwaite's Retrospect of Medicine, January to July, 1901.

Also the following Pamphlets and Reprints :—

Professor Murdoch Cameron : Cæsarean Section.

Dr. C. G. Davis (Chicago) : Two Hundred and Thirty-seven Consecutive Abdominal Sections.

- Dr. G. J. Engelmann (Boston): *The True Suspended Position (Obstetrical) and The American Girl of To-day.*
- Mr. Hastings Gilford: *Extra-uterine and Ovarian Pregnancy.*
- Dr. M. D. Jones (New York): *The Treatment of Uterine Fibroids and The Relation of Uterine Fibroids to Adnexal Disease.*
- Dr. Munro Kerr: *Cæsarean Section.*
- F. P. Kilmer: *The Story of the Papaw.*
- Dr. H. J. Kreutzmann (San Francisco): *Fibromyoma of the Uterus, and Pregnancy and Delivery complicated with Tumours and Neoplasms of the Genital Organs.*
- Dr. J. S. Stone (Washington): *Operations for Prolapse of the Uterus and Bladder.*

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BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, NOVEMBER 14, 1901.

J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT,
IN THE CHAIR.

SPECIMENS. By FREDERICK EDGE, M.D., F.R.C.S.

(1) *Ruptured Tubal Pregnancy—Removed Successfully.*

The patient was a young married woman, who had had three children. She was seized with pain and faintness, and for a month or two the menstrual function had been irregularly performed. The patient had also been in a weak state of health. There was slight temperature. An indefinite mass occupied the region of the vermiform appendix, which was also painful and tender.

A diagnosis of tubal gestation was made, although the possibility of appendicitis was taken into consideration. The patient was operated upon, the incision being made somewhat laterally, in view of the possibility of appendicitis being found.

The case proved to be one of tubal gestation, the only point of exceptional interest being that the appendix was adherent. During the operation there was considerable

hæmorrhage, and it was difficult to separate the adhesions. The patient made a perfect recovery.

(2) *Myoma Removed by Supravaginal Hysterectomy.*

This case had been handed over to him by his colleague, Mr. Christopher Martin. The tumour had given rise to a good deal of pain and hæmorrhage.

He took that opportunity of expressing his personal experience of the supravaginal operation. Theoretically he was a strong supporter of panhysterectomy, but recently, rather as an experiment, he had tried supravaginal hysterectomy. He had found it exceedingly simple, and the cases had recovered so rapidly and so well, that he was convinced that, from the practical point of view, there was much to be said in its favour.

(3) *Uterus and Upper Portion of Vagina Removed for Prolapse, after Plastic Operation had Failed, in a Woman, after the Menopause.*

Fellows on examining the specimen would find that a certain amount of mucous membrane was adherent to the cervix on either side. That was due to the fact that, when operating, he had adopted a modification of a method advocated by Mr. Christopher Martin. The essential features of the procedure were that anterior and posterior colpotomy were first performed, the fundus was then drawn out, the uterus ligatured from above down, and the cervix cut across. The cervix could then be put on the stretch, and the mucous membrane be stripped down as far as the operator deemed necessary with ease, with hæmorrhage under complete control, and with greater expedition than when it was dissected off from below upwards.

The PRESIDENT said each of the cases which Dr. Edge had brought forward were worthy of an evening's discussion. The second operation, that for fibroid of the uterus, had an exceptional interest for him, because he had had occasion to operate upon an exactly similar case that afternoon. In

the specimen before the Society there appeared to be a small fibroid, which was only partially connected with the uterus. In such a case he would prefer to enucleate the fibroid, and leave the uterus and appendages intact. Panhysterectomy in that particular case appeared superfluous, and even the subperitoneal operation more than was actually required.

Dr. HEYWOOD SMITH, referring to Mr. Edge's remarks upon his second case, said that there were certain cases of the kind under discussion in which he believed the subperitoneal operation to be the best. Many years previously he had read a paper on the subject before the Society, at a time when the operation was in its infancy. Since that time many leading gynaecologists had followed the subperitoneal method whenever it was practicable. Mr. Howard Kelly, Mrs. Scharlieb, and Mr. Bland Sutton, were names that occurred at the moment to him. They found that the operation could be performed more rapidly, the vagina was not touched, and the point of the cervix was left in a natural position. One point had not yet been explained, namely, why the mortality following removal of the uterus by the vaginal method was lower than that following panhysterectomy. In both cases the vaginal canal was opened, and he knew of no good explanation of the discrepancy. When the abdomen was opened he preferred the subperitoneal method.

Dr. MACNAUGHTON-JONES, referring to the case of prolapse of the uterus, said he had shown two specimens some time previously, one of them taken from a woman aged 74, who was in perfect health at the present time. In the second case he had also removed the uterus after it had been prolapsed for more than fifteen years, and in both cases the procedure had answered admirably, and neither patient had any trouble. In both, the bladder and rectum were prolapsed with the uterus. He failed to see any advantage which the procedures discussed presented over the ordinary operation of simply removing the uterus, and then doing a free colporrhaphy afterwards. The vaginal mucous membrane should be freely dissected up, the perineum drawn to either

side with hooks, a good free butterfly flap made posteriorly and anteriorly, and the vaginal mucous membrane freely removed. If necessary perineorrhaphy could be combined with these steps. The complete operation cured the prolapse, and gave a good contracted vaginal opening, and there was no trouble afterwards.

Mr. BOWREMAN JESSETT said he was interested in the first case shown by Dr. Edge from a diagnostic point of view. He had had a similar case some time ago which was diagnosed as appendicitis. When it was cut down upon the appendix was found involved, being firmly bound down to the tube, and a large hæmatosalpinx found to exist. In that case he proceeded to remove both the tube and appendix. A diagnosis of appendicitis was clearly indicated by the symptoms, probably owing to the appendix being drawn down and kept strongly adherent to the fimbriated body of the tube.

In regard to the second case, he would like to ask Dr. Edge why he removed both ovaries. It was difficult to say whether they were diseased. If they were not diseased it was better to leave them. Like Dr. Edge, he (Mr. Jessett) had been a strong advocate of panhysterectomy. Indeed, he was one of the first to advocate its adoption in such cases. But he was a convert to the supravaginal amputation in all cases where the cervix was long. If the fibroids extended, as they often did, down to the os, he thought it was far better to remove the whole uterus. But where there was a very long cervix it was simpler to cut across it and do the sub-peritoneal operation. He agreed that in cases of prolapse it was very desirable to remove a large V-shaped piece of vagina so as to make a support for the intestines. By simply removing the uterus in old cases of prolapse, one was very apt to get hernia into the vagina, and constriction of the vagina at an advanced age was not a very serious matter.

Dr. EDGE, in reply, agreed with the President that the part might, theoretically, have been removed by enucleation. In many cases, especially if the woman had had a family and

was hard-working, the one thing to be aimed at was rapid and complete cure. He had personally not been quite so lucky with enucleations as with hysterectomies.

With regard to Dr. Heywood Smith's remarks on the lower mortality following vaginal panhysterectomy than the abdominal or combined method, he thought there had been no sufficient explanation, unless it consisted in the greater possibilities for cleanliness. The fornices and the other parts of the vagina were more get-at-able, and were rendered more aseptic. Dr. Macnaughton-Jones had said that he could not see the advantage of removing the upper part of the vaginal mucous membrane. By doing so the area over which union took place was increased, and one might say the distance between the attachments of broad ligament was lengthened. The main supports of the uterus were the utero-sacral ligaments and the lower parts of the broad ligament, assisted by the other ligaments in front and behind. The perineum was not of much use, but, as Mr. Jessett had said, if one relied on the perineum the procedure furnished a second door. The prolapse, in his opinion, should be treated from above, just as in other herniæ. With strong union over a large surface there was more likelihood of permanent cure than by simple hysterectomy, with plastic operations lower down in the vagina. Mr. Jessett asked why both the ovaries had been removed in the second case. He could not recollect why he had removed them. He did not usually do so. But doubtless, from their appearance *in situ* at the operation, he thought it was the better course to pursue. Generally he left one ovary behind, often both, but if there was any doubt as to their condition he did not hesitate to remove them, and in otherwise healthy women, not already presenting neuroses, he had met with very few after-effects, if care were taken to avoid what were so often mistaken for after-effects, namely, the results of constipation and Dr. Haig's uric acid diathesis. If women took plenty of fresh air, and were not told to expect the sequelæ, the removal of both ovaries had been followed by

very few after-effects in his experience, especially in the case of strong, healthy working women.

Mr. ROBERT O'CALLAGHAN showed specimens of :
(1) Large myoma removed by abdominal hysterectomy ;
(2) a myoma, the enucleation of which was attended by brisk hæmorrhage, rendering it advisable to fix the uterine to the abdominal incision ; (3) double pyosalpinx.

(1) The first specimen had been removed from a maiden lady, aged 33, who had been under Mr. O'Callaghan's observation for over a year. When first seen she had a large myoma reaching to the umbilicus, but causing her little trouble beyond a slight increase in menstruation. During the last year, however, the tumour had increased in size, and had given rise to constipation and irritability of the bladder.

The patient expressed a desire to be relieved of the trouble, and the tumour was removed with both ovaries. At the operation the tumour was found burrowing into the left broad ligament, and the large intestine was adherent to it. Stripping these structures away from it rendered the operation more difficult than usual. The patient made a good recovery.

(2) The second specimen had been removed from a single lady, who consulted Mr. O'Callaghan in April, 1901, for profuse loss at the periods and irritability of the bladder. On examination he found a myoma as large as a cricket ball in the anterior uterine wall, which he could easily pull up from its position between the uterus and bladder. The patient desired to have it removed, and in June last Mr. O'Callaghan did so. Brisk hæmorrhage, which followed enucleation of the tumour, was controlled by deep stitches, by fixing the uterine incision to the abdominal wall, and including it in the sutures. The patient made an easy recovery, and is much improved in health.

(3) The third specimen consisted of the uterine appendages, which had been removed from a married woman, aged 26, whom Mr. O'Callaghan had first seen a month

previously with Dr. Ogilvie. The uterus was then found to be fixed ; there was cystic disease of the right ovary, and distinct tubal mischief on either side. The patient had had every kind of local treatment for a year, and local treatment was still continued for a fortnight. She suffered such pain, however, and her marital life was so miserable, that she wished to have the cause of her trouble removed. The operation was a difficult one, both tubes being embedded in adhesions, and the ordinary pelvic landmarks being hard to find. Two blood cysts were ruptured in the right ovary, and there was considerable oozing after removal. It was therefore thought advisable to drain for thirty-six hours. The patient made an excellent recovery. The primary cause of the disease was gonorrhœa.

Mr. JESSETT asked if the ovaries were healthy in the first specimen.

Mr. O'CALLAGHAN said that they were. In his opinion the woman derived no benefit from the presence of the ovaries after the uterus had been removed, and they were a possible source of disease, perhaps cystic degeneration, rendering another operation necessary. He made it a practice to remove them.

Mr. JESSETT said that he had frequently observed the ill-effects following removal of both ovaries. Such a step was followed by considerable mental depression for about two years, after which time it seemed to gradually wear off. The condition was one which could be only partly removed by treatment, and was not nearly so liable to follow the removal of one ovary alone.

Dr. HEYWOOD SMITH said that not only were the women liable to get more depressed and hysterical, with perhaps periodic attacks of definite depression, which synchronised curiously with what would have been their menstrual periods had the ovaries remained, but they did not seem to experience the same emotions as other women in the same spheres. That day he chanced to hear the opinion of a lady in a responsible position, visiting England, who had a number of nurses under observa-

tion in the pursuit of their calling. Three of them had had both ovaries removed, and their comparative lack of sympathy was remarkable.

Dr. C. H. F. ROUTH said that it was an axiom of surgery that that which could with perfect propriety be left should not be taken away. He had been convinced by careful observation that the complete removal of both ovaries had a deleterious effect upon the mental condition of a woman, an effect which was not produced if even a remnant of one ovary were permitted to remain. It was regrettable that some surgeons did not more systematically record the effects which followed the complete or partial removal of the ovaries in each case. Proof would then replace what was at present the almost general consensus of opinion.

Dr. MACNAUGHTON-JONES regarded it as an accepted rule of practice to leave one ovary behind wherever possible.

Mr. O'CALLAGHAN, in reply, said that to leave one ovary behind was doubtless the accepted rule of some gynæcologists, but it was not necessarily correct practice. It was a rule founded, not upon established facts, but upon an erroneous hypothesis. In earlier days the removal of both ovaries and appendages for bleeding fibroids was, in most cases, followed by a condition resembling the menopause. The condition was caused by the plexus of nerves, situated in the uterine cornices, being left intact. Now that hysterectomy was the recognised treatment, the cause of post-operative neuroses was removed and the latter were present only in previously confirmed neurotics. Therefore, he held it was conservative surgery to remove the obsolete appendages where hysterectomy had to be performed.

CASE OF ECTOPIC GESTATION WITH ESCAPE OF GESTATION SAC INTO THE PERITONEAL CAVITY. Under the care of Dr. MACNAUGHTON-JONES.¹

The patient, aged 33, had been married for upwards of four years; there had been no previous conception. A

¹ See Plate I.

PLATE I.



Extra-uterine foetation with rupture of the broad ligament and escape of the sac into the abdominal cavity, showing placenta and foetus.
The surface which was adherent to the bowel is not seen.

H. MACNAUGHTON-JONES.

year previously she had been treated for an erosion of the cervix. The last menstrual period occurred eleven weeks before the onset of her illness, which was on July 10, when she was seized with acute pain in the abdomen, and sickness, the consequences, as she thought, of a chill taken the same day. The pain was relieved by rest and sedatives, recurring, however, periodically. As ectopic gestation was feared, she was kept in bed and under observation. On the 15th there was a recurrence of the symptoms, followed by greater prostration, but no uterine hæmorrhage. Again she appeared to get better, but on the 24th violent abdominal pains set in, the pulse became very rapid, and the face blanched; I saw her for the first time, in this condition, late the same evening.¹ The abdomen was tumid and dull on percussion, the uterus fixed, and the pouch of Douglas occupied by a resistant swelling. Early the following morning I operated. She had rallied somewhat from her condition of the previous evening, but still the pulse was weak and fluttering, and the lips quite blanched.

On opening the abdomen I found the cavity filled with blood. This, with masses of soft coagula, was removed. I quickly came on the gestation sac about the level of the umbilicus, with the placenta, the mass being adherent to the bowel. It bled freely. The hæmorrhage was controlled digitally, and I still found blood welling up in quantity from the pelvis. I soon found that the bleeding was proceeding from a large rent in the left broad ligament, running close up to the uterus. This was quickly stopped by the application of two long Doyen's clamps running at either side of the rent. The gestation mass was then removed, the adhesions being separated, and any bleeding points ligatured. Ligatures were then passed at either side of the clamps with Deschamp's needles, and the broad ligament secured. Up to this I had not seen the foetus, and failed to find it until I passed my hand up under the diaphragm, where I found it in the left hypochondrium. There was no

¹ In consultation with Dr. Alexander McDonnell, of Hackney.

further bleeding and the abdomen was closed. Saline sub-mammary injections had been administered during the latter part of the operation, and were continued throughout the day, with rectal stimulating enemata. She rallied for some hours after the operation but never recovered from the collapse, surviving only nineteen hours. Her surroundings were not the most propitious for recovery, though her medical attendant left nothing undone to secure it.

ADNEXAL TUMOURS—SEVENTEEN YEARS' DURATION.

Dr. Macnaughton-Jones also showed the adnexa of a patient, aged 40. In this case, saline injections rendered the completion of the operation possible. Some short time before she had been curetted, and a polypus removed from the uterus. There had been a history of pelvic pain extending over seventeen years, since her last pregnancy. Before operation she suffered from intense pain, frequent fainting fits, and symptoms of collapse. At the operation the inlet of the pelvis was discovered to be closed by a smooth and firm plastic bed, completely obscuring the adnexa. On breaking this down, the latter were found to be converted into thickened, adherent, and enlarged tubes with old pus sacs, the ovaries also being enlarged and cystic, with purulent infiltrations. Their removal was extremely difficult. As one pus sac ruptured an iodoform drain was left in, and this was finally removed on the fourth day. The recovery of the patient was uneventful. The case, with one recently exhibited, well illustrated the danger of temporising with such adnexal conditions, which often necessitated the performance of an operation far more difficult and prolonged than any ordinary hysterectomy. In this particular instance, save for the use of artificial serum, it was doubtful if the operation (the entire duration of which was close on two hours) could have been completed.

Mr. JESSETT said that in cases of extreme collapse, such as that which occurred in Dr. Macnaughton-Jones' first case, he thought that the use of intra-venous were more

advisable than submammary injections, being more rapid in producing their effects. Where pus escaped into the abdomen he thought it was advisable to simply swab out the pelvis, and not to wash out the abdomen with saline, as by so doing one ran the risk of driving the pus into the recesses of the abdomen, where it might produce considerable mischief. He would also like to hear what variety of drainage, if any, Dr. Macnaughton-Jones employed in such cases.

The PRESIDENT said that the point raised by Mr. Jessett with reference to the employment of saline solution to wash out the abdominal cavity was a very interesting one. In his own practice he did not drain when the pus was not septic; he washed out the cavity as carefully as possible.

Dr. EDGE referred to a paper which had been read at Birmingham, upon the use of extract of suprarenal capsule as a hæmostatic, and asked Dr. Macnaughton-Jones whether he had any experience of its use. He referred to the necessity of removing the entire Fallopian tube, and also the advisability, as well as the difficulty, of removing every trace of ovarian tissue in such cases. If any ovarian tissue were left it was liable to become enclosed in the dense adhesions, and give rise to pronounced subjective symptoms. As to the technique employed in breaking up adhesions, when there seemed to be no line of cleavage, if the fundus of the uterus could be differentiated, his experience led him to believe that very forcible pressure could be safely used in the middle line posteriorly, and that in very many cases it was possible by such means to break up the general cohesion of the tubes and ovaries.

Mr. EASTES said that one of the three cases of ruptured tubal gestation which had been referred to, had closely simulated one of appendicitis. He had seen a case of ruptured tubal gestation two or three weeks before in which there were three signs of free blood, to which he would like to draw attention. There was dulness on the side on which the woman had been lying; a striking absence of tension, as if the blood prevented the normal tension of the muscles

so that the abdomen could be easily manipulated; and a peculiar sensation of partial fluctuation resembling that obtained on examining a pulpy joint. He thought that these three signs might prove of service in differentiating a ruptured tubal gestation from appendicitis.

Mr. O'CALLAGHAN, reverting to the question of draining, said that the necessity for it arose more frequently from the presence of hæmorrhage than from the presence of pus. When many adhesions had to be broken down and the consequent hæmorrhage could not be completely controlled, it was unwise to close the abdomen without inserting a drain.

Dr. MACNAUGHTON-JONES, in reply, said with regard to Mr. Jessett's question, he was fully convinced that submammary injection was the one to adopt; it was the simplest, and it was that which was employed at the operation. At the last meeting of the Society he showed a very large tumour, removal of which had occupied two hours, and during one-third of the operation saline fluid was injected. He did not think that the patient could possibly have survived the operation otherwise. In such cases, where the serum was being frequently used, a litre at a time, he thought nothing could excel injection into the rectum or submammary tissue. With reference to drainage, if when a pus sac were ruptured we were certain that the pus was not septic, it might be prudent not to employ drainage; but owing to the difficulty of determining with any certainty at an operation whether pus were sterile or otherwise, he considered it safer to leave an iodoform drain in. He had used extract of suprarenal capsule more than once. At the last meeting he narrated a case in which he had accidentally opened the bladder; blood was passed *per urthram* after the operation, and injection of half a drachm of suprarenal extract was followed by immediate cessation of the hæmorrhage. Hæmorrhage returned, and a second injection was followed by the same result. The injections were repeated at intervals and had a most beneficial effect.

The hæmorrhage ultimately ceased. There was one point in reference to the appendix which was a matter of practical importance in gynæcology. Whenever a tumour, whether of the adnexa or of the uterus, were removed, the appendix should, in his opinion, be brought up and examined. He further believed that secondary pains were frequently the result of adhesions of the appendix to the stump or other raw surface with which it came in contact.

PROPHYLAXIS IN GYNÆCOLOGY. By HERBERT SNOW, M.D.Lond., &c., Senior Acting - Surgeon, Cancer Hospital.

I think I may reasonably assume that any unprejudiced medical observer, asked to point out the branch of his Art wherein the greatest practical advance has been witnessed by the present generation, would unhesitatingly instance gynæcology. That advance, however, has mainly consisted in a remarkable development of operative Surgery, particularly in relation to the abdominal cavity. While fully appreciating the skill and ingenuity so conspicuous in this particular field, we may surely also pause to consider how far the maladies we are called on thus to cure are preventable by ordinary care and reasonable attention to health-laws; whether, with all the *fin-de-siècle* furore for sanitary legislation and talk of public health, we do all that is humanly possible towards the conservation of private and individual well-being. Here, of course, the health of one sex only is in question; but that sex, besides being the most important in respect of the future developments of the race, is confessedly the most conspicuous and most constant breaker of natural laws. Lastly, but by no means least, the recent addition of ladies to the ranks of the Society seems to me suggestive of two points. The first, that we should habitually consider more systematically than heretofore how female health in general can be sustained at its highest level amid the increasingly artificial environments

of modern civilisation. The second, that with the increase of strength thus accruing to us we can now speak on such topics with higher authority and much more practical effect than "mere man" could previously have done.

I can now refer only to three of the crimes which Nature punishes, often so signally. I speak of things well known, yet imperfectly appreciated, wholly forgotten, or even of set purpose ignored.

First and worst ranks that rigid circular splint termed the corset, the use of which is, with the rarest exceptions, universal. The evils of "tight lacing" are proverbial. What is not recognised, however, is the fact that under existing conditions every woman is guilty of it; is, in fact, forced to commit it more or less, whether she wishes or not.

Again, it is surely not generally known that the peculiar thoracic respiration of a civilised female is factitious and abnormal; that "Indian girls, who have never constricted the waist by stays, breathe with the diaphragm as naturally as do men" (Pyle, "Manual of Personal Hygiene," Philadelphia, 1900).

A well-designed sketch is given at page 500 of the "Book of Health" (Cassell and Co.), which shows the permanent deformity of the skeleton wrought by compression of the yielding lower ribs. I do not know if the profession are aware how early the process often begins. I am assured that children of 8 or 9 are commonly taken by their fashionable mothers to the corset-makers, with instructions to equip them with an instrument, and laced as tightly as possible. For the results in after-life, the wasp-waisted figure-plates which abound on the advertisement pages of every ladies' journal are unfortunately too often accurate. And it is no uncommon thing to see in the *post-mortem* room deep grooves in the liver-substance, due to the impressions of the compressed ribs.

The valuable work last quoted gives a long list of ailments due to the abuse, which, as I have already remarked, is practically synonymous with the *use*, of the

corset. With simultaneously obstructed and materially impaired nutrition, circulation, respiration and secretion, who could dream of health? I will not quote the list of these ailments, it is sufficient to say that they range from neurasthenia to gall-stones, from a red nose to a protuberant abdomen. Yet it is a little remarkable when one considers the author of the article (Sir F. Treves), that the maladies mentioned are mostly functional and medical; that the far graver lesions which the surgical gynæcologist is called on to treat are either briefly hinted at or wholly omitted.

There is strong reason to regard the large multiple, many-shaped uterine myomata, so unfortunately prevalent among civilised women, as due to this source, and this alone. Most solid tumours arise from a previous long-continued condition of chronic congestion; when, as in myomata, they consist of a single natural tissue enormously hypertrophied, they always do. To the hyperæmia from constriction are superadded the effects of monthly interference with the menstrual function. One rarely fails to find a history of long-persistent dysmenorrhœa, menorrhagia or chronic invalidism with leucorrhœa, antecedent to the common uterine fibroid, which indeed resembles cancer in never appearing without a manifest exciting cause. The prevalence of these tumours among our womankind is not, I think, generally appreciated.

Dr. Champneys describes myomata in 67 out of 462 surgical patients at St. Bartholomew's Hospital. Windssel found 66 cases of the same in 440 necropsies on women dead of various maladies. Roger Williams, in his recent work on "Uterine Tumours," quotes Bayle, Lee, Rokitansky, and others, in support of the statement that 20 per cent. of all (civilised) women over 35 years of age suffer in this way.

On the other hand, so far as we can gather, negresses and the females of other aboriginal races are, while they remain in their native wilds, perfectly free from uterine myomata; but directly they become civilised—which, for

purpose, signifies wearing stays and carrying to their utmost extreme the requirements of fashion—they become remarkably prone to them. Montgomery ("Practical Gynæcology," p. 175) remarks on the great susceptibility of the coloured race to the development of fibroid growths. Lawson Tait ("Diseases of Women") describes these tumours as a "very scourge" among the negroes of the Southern and Central States of North America.

Then again, "cancer" runs on exactly parallel lines; in the uterus, just as in the mamma, I may parenthetically mention, cystic and other forms of degeneration are met with, as well as the more grave carcinoma. Cancer is very rare among savages (Walshe, Livingstone, Davidson). I cannot ascribe their immunity, of course, wholly to the absence of the corset, but no one can well doubt that the latter is directly concerned in the generation of many mammary, to say nothing of the uterine, cancers. Dr. S. Young, quoted in Sir Astley Cooper's "Anatomy of the Breast," says of the negroes in the West Indies: "Those cases (of malignant disease) which I have witnessed in this class of people have been among the better orders of them, whose habits of living have been assimilated to those of the Europeans."

As regards the flexions and other uterine displacements which involve so much instrumental and operative treatment, it is not open to doubt that in their development, whatever other causes may contribute, the corset is by far the most significant factor. I have not unfrequently had occasion to notice in nulliparous young women, conspicuous for their slender waists, what I mentally style the "corset uterus." The uterus is crammed down as it were into the pelvis, lying horizontally, or nearly so, when the woman is recumbent. It may be considered a "retroversion;" but I dislike that word for a transient and factitious condition; and, so long as the organ is mobile, no harm is done.

In young and vigorous patients the condition will not,

for a time, give rise to any symptoms, but it is assuredly the first stage of a displacement that will ultimately do so. And granted the added stress of child-bearing, especially under conditions of neglect or too rapid repetition, it is easy to understand why retroflexions or retroversions are so deplorably prevalent.

The unnatural custom of lacing tightly during pregnancy, not merely to preserve fashionable symmetry, but with the direct object of securing the easy parturition of an ill-nourished, therefore small, infant is, I fear, becoming more and more prevalent among the opulent classes. Needless to add that the inevitable punishment it involves is not limited to the mother.

It would, of course, be Utopian to preach a return to the Greek model, to the ideal of the Venus de Medici, with her twenty-eight inches of waist. According to a French writer, the fashionable lady of the present day, often a very much larger person than the Venus, aspires to a circumference of twenty-two inches. As practical men and women we are bound to recognise facts, and acquiesce in the decrees of fashion, which always have some solid foundation of good ; for a fashion is, almost invariably, only a beneficial, or truly æsthetic, principle carried to an extreme. But viewing the enormous extent of the evil, could not the matter be taken out of the hands of the modiste ? Could and should we not initiate a movement in favour of an approved and innocuous corset which, while ensuring elegance and grace, will yet avoid painful compression ? It seems to me that if all gynæcologists were to unite in turning their attention to this point, as a routine detail in every consultation, they could effect much, and that the time is specially opportune for such a reform, because of the increased devotion to cycling and other out-door pursuits which is so healthy a feature in the present outlook.

Habitual constipation, in its disastrous results, is next in importance. Like the abuse of the corset it is almost

universal, and the combination of the two enters largely into the causation of most feminine maladies, especially of hæmorrhoids and varicose veins. The routine consumption of *cascara, et hoc genus omne*, is unnecessary, and in general is easily preventable by the acquisition of a proper habit. Once gain this and Nature will henceforward work automatically, without resort to drugs. In childhood it is easy to form the habit; later, more difficult, yet far from impossible. An enforced daily visit to the shrine of Juno Cloacina at a fixed hour—preferably after breakfast when tea or coffee much helps—will wholly abrogate the need of artificial aid.

The third of my topics is a very grave one, not to be approached without considerable hesitancy, yet it daily becomes more insistent and even urgent. *Too frequent child-bearing* confessedly predisposes to tuberculosis, and I often see cases in which it has plainly led up to uterine cancer; the many other ills it involves are sufficiently well known. Its evil consequences are very conspicuous among the poor, among whom moreover they carry the inevitable sequence of an enormous infant-mortality, hardly realised among us. Hospital patients very commonly tell me of having lost six out of eight children, frequently more. That is about the average.

I will only now ask, as Socrates might have done, whether a matter fraught with such weighty issues to the health of the community ought to be left, as now, wholly to the purveyors of more or less objectionable literature? Whether it might not occasionally be considered by the gynæcologist on nearly (not of course wholly) the same footing as other sanitary problems of equal importance?

BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, DECEMBER 12, 1901.

J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT,
IN THE CHAIR.

CLINICAL CASES AND SPECIMENS.

Dr. MACNAUGHTON-JONES showed the following specimens :—

Malignant Multilocular Ovarian Cysts Complicating Uterine Myomata.

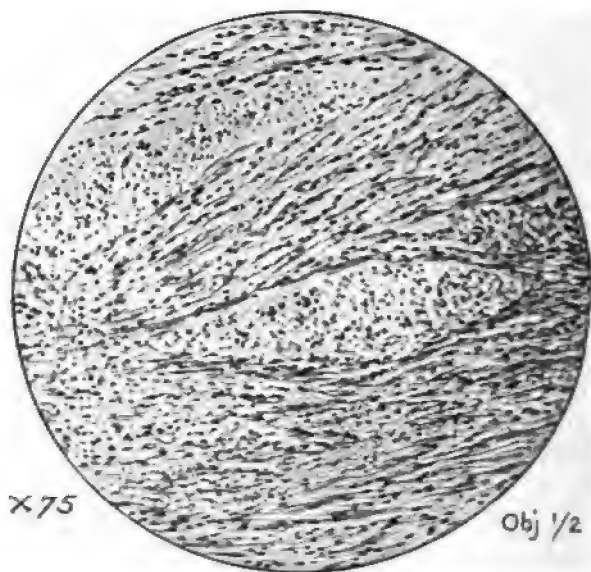
(1) The patient was unmarried, aged 48. Four months before consulting him her health began to fail and she suffered from abdominal pains and frequent bladder irritation. The periods had been fairly regular until a few months previous to his seeing her, when hæmorrhage set in, and continued intermittently until operation. She was then greatly wasted in appearance, extremely anæmic, with a cardiac bruit. On examination fluid was detected in the peritoneal cavity, and the uterus was found to be enlarged and myomatous. An open diagnosis was made of ovarian tumour complicating myoma. She was operated upon on July 23, when the tumours shown were removed. She made an excellent recovery without any elevation of temperature. Two months after the operation she died of ascites and anasarca. At the operation a large quantity of ascitic fluid escaped. Two subperitoneal myomata were removed. The ovarian cystomata were the size of small melons. They had the appearance of multilocular colloid cystoma. The larger had evidently ruptured.

Mr. Targett kindly made a microscopical examination of the specimen and found that sections of the wall exhibited invasion of the capsule of the tumour with columnar-celled carcinoma, the cells of which were arranged in tubular form. Moreover, the capsule was perforated by the growth in places. The larger cyst had ruptured during life, and this fact would explain the rapid infection of the peritoneum and the ascites which led to the death of the patient.

Sarcoma of the Vagina.

(2) The patient was aged 44, married. Last pregnancy twenty-two years since. In May, 1901, she suffered from a disagreeable discharge from the vagina. This became constant, and more diffuse and offensive in June. Occasionally what she called "pieces of flesh about the size of a walnut" appeared with the discharge, and of late there had been severe bleeding on the slightest exertion. When he saw her she was very anæmic, with a sallow complexion. He found the vagina filled with a soft, apparently carcinomatous, mass, which bled so profusely that it was not possible to proceed with the examination, and it was only when the patient was under anæsthesia, at the operation, that he discovered that the cervix uteri was free from the growth by which it was concealed. It was then found that the mass was pedunculated and that it grew from the anterior vaginal wall behind the trigone of the bladder. Operation proved that it was quite free from the latter viscus. The large pedicle was first secured with a rope ecraseur, and secondly, with a Billroth's clamp. The mass having been removed the cautery was applied to the stump. Then the subjacent base from which the tumour grew was ablated and the actual cautery applied to the raw surface. The wound was then covered by the vaginal mucous membrane. The most careful asepsis was maintained and the wound healed by primary union.

For the following report he was indebted to Mr. Targett :



Spindle celled sarcoma of the vagina. See page 324.

H. MACNAUGHTON-JONES
(Section by J. H. TARGETT.)

"This growth is a spindle-celled sarcoma of the vagina. The surface is ulcerated and covered with necrotic material. Among the spindle-cells there are a few larger polynuclear cells."

*Adnexal Tumours Causing Uncontrollable Vomiting—
Salpingo Oophorectomy.*

(3) Patient, aged 26; had been married twelve months. In 1900 she suffered from severe metrorrhagia for four months. She consulted him for continual sickness in November, accompanied by pains in the back and iliac regions. On examination he found an adnexal swelling at the left side, difficult to disassociate from the uterus, which latter was enlarged. On December 6 the sickness was worse, vomiting was frequent, and nausea constant. On examination the adnexal swelling at the left side was found much larger and softer. At the operation the left ovary, about the size of an orange, was found to be cystic, and was removed. The right also contained a cyst, which was resected. From the time of the operation all sickness and vomiting ceased, and the patient is now quite well. Examination of the cyst proved it to contain sanguineous fluid from intra-cystic hæmorrhage.

Dr. HEYWOOD SMITH said it was rather unusual to find the edges of a large cauterised surface brought together by stitches. Did Dr. Macnaughton-Jones find that such a procedure obviated the formation of a slough, which would otherwise be enclosed in the wound?

Dr. MACNAUGHTON-JONES said it was a delusion to suppose that a perfectly aseptic operation could not be conducted with the free use of the cautery. He had recently seen Professor Zweifel, of Leipzig, who was a strong advocate for the cautery, use it freely in a number of gynecological operations, abdominal and vaginal. Provided the conduct of such operations were thoroughly aseptic throughout, the cauterisation of portion of a deep wound did not prevent perfect union.

A DEMONSTRATION OF CHANGES OCCURRING IN UTERI IN WHICH FIBROMYOMATA ARE PRESENT. By E. STANMORE BISHOP, F.R.C.S.Eng., President of the Manchester Clinical Society; Hon. Surgeon to Ancoats Hospital.

MR. E. STANMORE BISHOP prefaced his demonstration by remarking that there was considerable difficulty in obtaining lantern slides showing the microscopical changes in arteries, and in some instances it was impossible to do so. He had therefore in a number of instances had microscopical sections drawn, and from the drawings lantern slides had been made. All the microscopical sections that he referred to were under the microscopes on the table, so that the Fellows could verify the accuracy of the drawings, which might otherwise appear somewhat exaggerated.

MR. PRESIDENT AND GENTLEMEN,—It was inevitable that during the evolution of such an operation as hysterectomy for fibromyoma our attention as gynæcologists should be directed more especially to the various methods proposed for carrying out that proceeding, and that, during the process of placing that upon a satisfactory basis, many minor points in connection with the subject should become clear to us which before were obscure, the full consideration of others should be postponed, and some should lose the importance which previously they appeared to possess.

Among those which, perhaps, many will feel inclined to consider as belonging to the last category, is the behaviour of the uterine endometrium in presence of this neoplasm. If hysterectomy, more or less complete, be accepted as the most satisfactory solution in those cases in which operative interference is required, the consideration of what may or not be the particular effect upon that membrane, removed as it is with the rest of the organ, of a growth in the subjacent tissues would almost appear to be a matter of indifference — indifference, I mean of course, to us as operators, not as pathologists.

There will always remain, however, a certain number of cases in which the only apparent tumour is a single one, projecting towards the central canal, or becoming more and more polypoid in its lumen. These cases are, moreover, such as in the opinion of many do not even yet justify total ablation of the uterus, whilst at the same time their symptoms—especially the one most pressingly attracting notice, that of great, frequently recurring, and increasingly exhausting hæmorrhage — imperatively demand some remedy. In these cases it is possible that any observations, however imperfect, of the tissues most affected may throw some light upon the situation, induce others more competent to extend and amplify them, and may perhaps be of some service to those who have to decide how and in what manner they may best be dealt with. It is with that intention that I venture to bring before this Society to-night some photographs and specimens of the endometrium as I have found it in certain uteri, the subjects of this disease, which I have removed during the past few years.

But whilst the special attention of operators may be said to have been drawn in another direction, this subject has not escaped that of pathologists, and several observations and opinions have been recorded.

Semb, with 23 cases, stated that no definitely characteristic changes in this membrane could be determined. Wyder in 1878 said that the endometrium was converted into diffuse adenoma, and in 1887 reported 20 cases in which he found interstitial endometritis. Campe found in 10 cases chronic glandular endometritis, with inflammatory changes in the stroma in one case. Borisoff¹ examined 21 uteri, and found in the endometrium, removed from the site of the tumour, atrophy with complete or partial destruction of the glands in 11, glandular endometritis in 3, interstitial endometritis in 5, and glandular

¹ *Monatsh. f. Geburtsh. u. Gynäk.*, 1895, B. 2, H. 5. "Gould's Year Book," 1897, p. 616.)

and interstitial endometritis associated in 2 instances. In 2 cases of subperitoneal tumour, the entire endometrium had atrophied, and in another there was glandular and interstitial endometritis. In many of the preparations every form of endometritis was, he said, to be seen. He classed the appearances in his sections in the following way: in 11 cases of metrorrhagia, atrophy of the endometrium was found in 7; glandular endometritis in 1; interstitial endometritis with sclerotic change in 2; glandular and interstitial endometritis in 1.

In the greater number of these beneath the superficial portions of the endometrium, the blood vessels were very much dilated and filled with corpuscles. A diffuse extravasation of blood was seen in all sections, most marked in the superficial endometrium, but sometimes extending into the muscular wall. In most of the sections the superficial epithelial cells had disappeared.

Sutton and Giles¹ say that "so long as the tumour remains within the cavity of the uterus, the mucous membrane covering it is indistinguishable from that lining the cavity of the uterus, and the surface epithelium as well as that lining the recesses of the glands is of the columnar ciliated variety. When the myoma enters the vagina, the epithelium covering the extruded portion becomes converted into stratified epithelium, on all those portions subject to pressure, but the epithelium in the glandular recesses remains columnar and ciliated." Sutton in his work on tumours endorses this opinion.

Barremans² finds in these cases, that "while the deeper layers of tissue in the endometrium show a glandular change, the more superficial present the microscopical appearances of an interstitial endometritis. The glands invade the subjacent muscular layer, and may even invade the myoma. This hyperplastic form of endometritis is the

¹ "Diseases of Women," 1897, p. 185.

² *Rev. Internat. de Méd. et de Chir.*, No. 6, 1899.

rule; the mucosa is seldom atrophied, except when it is strongly compressed by fibromatous nodules."

It can scarcely be said that authorities are agreed as to the condition of the endometrium, which may be expected—for instance, in a case of submucous polypoid fibromyoma, in which the advisability of vaginal enucleation may become a question for discussion. To the practical gynaecologist it then becomes of interest to know—

(1) What is the condition of the endometrium over the tumour itself?

(2) What is its condition on the wall of the uterus opposing it?

(3) What is its state at the angle which the protruding mass makes at the point where it leaves the uterine wall?
And

(4) What is its condition in the fundus and wall above the tumour which will be left behind when once the polypoid mass is removed?

It appears probable from the foregoing references that this will not be the same in every case, and I do not bring these specimens before you with any idea that their evidence will settle the question, but simply to add a small number to the many specimens which must be examined and recorded before any definite rule can be laid down.

In order not to weary you by endless and unnecessary repetitions, I have selected six microscopical slides, from a number taken from thirty different cases, which you will find under the microscopes, and these I have had reproduced for demonstration with the lantern, because they seem most typical of the changes found.

The first section I show you is taken from a uterus removed by me by vaginal hysterectomy some time since.¹ The patient from whom it was taken was aged 45, and had been married for twenty years. She had had two children,

¹ A similar section from the fundal extremity of the uterine canal of another uterus shows a similar condition.

the eldest aged 18, the youngest aged 13, and she had had three miscarriages between the two for no very obvious reason. For the last twelve months she had only been free from hæmorrhage for fourteen days, and that about six months before operation. As may be imagined, she was extremely anæmic and very thin. She had two intramural fibroids, one tending to become subperitoneal and impacted in the pelvis behind the uterus, neither pressing particularly upon the endometrium, which, however, was thick, and almost purple in colour. The section is taken from the fundus near the opening of one Fallopian tube. As you will see, it shows distinctly hyperplasia of the glandular tissue, the gland cells well formed, and the glands themselves abundant, whilst the outermost layer of epithelium, where seen, is normally cylindrical and ciliated.

The next is taken from the fundus of a uterus of a woman aged 44, married thirteen years, with no children or miscarriages. Menstruation was regular and painless until twelve months before operation, on July 8, 1901; used to last two to three days, but for the last twelve months has increased in amount and frequency. Period at time of observation lasts fourteen days. Six weeks before, great pain, lasting for three weeks continuously, came on and appeared at intervals since. There had been no dysuria.

In this case two tumours existed in the posterior wall, and there had been pelvic peritonitis, resulting in a small collection of pus situated above the bladder and walled in by omentum. One of the masses was near to, but not pressing markedly upon, the internal wall, being still entirely intramural. The endometrium is here also thicker than normal, and not only so, but upon both walls, both that over and that opposed to the tumours, small glandular polypi were formed. The upper one, on the opposite wall, is first shown here, and the other can be seen in the succeeding slide lying a little below the point at which the innermost tumour most nearly approaches the lining membrane. The glands are well marked, the gland epithelia

normal in size and intact, and the surface layer of epithelium is normally cylindrical and ciliated. It was impossible in both these specimens to use a sufficiently high power to show the last point, if we were to show at the same time the general features of the membrane itself. In the following, however, this becomes more important, and higher powers are therefore used.

The fourth specimen is taken from a uterus which contained two fibroid masses, one in the anterior, one in the posterior wall, both beginning to press upon the endometrium between. The patient from which this uterus was removed was a widow, aged 44. She had had no children nor miscarriages. She had always had a very free flow at the menstrual periods, but had had marked floodings during the past twelve months. There had been dysuria for the last two or three months. The section shows the glands in a compressed state and beginning to break up. The interglandular tissue is also disintegrating. Very few glands in the whole section are still normal. The fifth, sixth, seventh, eighth and ninth specimens are taken from cases in which the growths had become polypoid and projected markedly into the uterine canal and the condition of things in all but the next is greatly changed. A glance at the fifth is sufficient. It is taken from the angle made by the polypus with the wall from which it issues. The glandular structure here dips down between the growth and the wall, helping to accentuate the division between them, and is here fairly abundant.

But it is especially to the next four slides that I ask your attention. These show the condition of the endometrium over the tumour itself and over the opposed wall. It is, as you will see, almost non-existent, being only represented by a single line of epithelial cells, arranged vertically to the wall respectively over each, and seated directly upon the muscular tissue beneath. The connective tissue basis and the deeper-seated gland structures are gone. The endometrium is, as it were, spread out—opened out—over

the advancing mass, and even the remaining cells have undergone a distinct change. In parts, where the pressure is not so great, they remain columnar; but lower down, where the force increases, they themselves become flattened and dwarfed until they approximate, although I cannot find that they ever absolutely reach, the squamous type; and this, it must be remembered, is *before* the growth reaches the vagina, and whilst it is still intrauterine; of tubular formation at points where the pressure is not quite so complete there is an attempt. This and the next show, I think, the final steps of the process remarkably well. In each you will notice that the epithelium rests directly upon muscular tissue. The interglandular substance is gone, but in this, the ninth, there is still an attempt at, or remains of, glandular formation, the pressure being as yet not so great. The epithelia dip downwards, and in the centre, one complete gland tubule is cut across, the others being still open above and fairly deep. In No. 8 the line of epithelium is simply irregular, pressure being greater, whilst in Nos. 6 and 7, where pressure is greater still, it is entirely straightened out, and lies like a mere fringe on the surface of the tumour.

It is curious to note that precisely the same effects appear to be produced by the expansile force of the myoma itself, aided by the contraction of the uterine fibres behind upon the endometrium lying over its own surface, and upon that which faces it on the uterine wall opposite.

The evidence afforded by these sections, and many others similar, would appear to go some way towards justifying the following conclusions.

The presence of a fibromyomatous growth in the uterine tissue has an effect upon the endometrium lining that uterus.

In the early stages, and whilst still intramural, it tends to produce hyperplasia of the endometrium.

When becoming sufficiently submucous to exert some pressure upon the membrane, it produces compression of the glands, with subsequent disintegration both of them and of the interglandular substance.

When actually polypoid into the uterine canal, the endometrium over the actual mass and the opposing uterine wall is reduced to a single layer of cells, which becomes progressively thinner in proportion to the pressure exerted, and approximates the squamous type.

In many of these sections, blood vessels and lymphatics are seen immediately below, or within a very short distance of the protecting line of epithelium.

One practical result of such observations may be touched upon. The use of the curette for the purpose of checking hæmorrhage, so much advised in earlier times, would seem to be justified in those stages of the disease which occur before the tumour becomes polypoid. The endometrium is at first hypertrophied, then degenerate, and in either case might be removed with good effect, but the case is altered when an actual myomatous polypus is present. Then the endometrium over the tumour and opposed to it being reduced to a mere line of epithelium, its removal can do no good, and may have very evil results, by laying open lymphatics, and permitting the entrance of micro-organisms, thus producing necrosis of the tumour on the one hand and metritis on the other, and a glance at these slides will demonstrate how easily this may be done.

But examination of these sections appears to me to be of interest from quite another point of view. The question of the *etiology* of fibromyomatous tumours may just now, to use the phraseology of the politicians, be looked upon as a "burning" one. All kinds of theories with regard to it have been advanced by various writers, all of which are based upon observations of specimens of this kind. Some see in them the results of late development of embryonic structures; that, of course, means development of remnants of embryonic structures belonging to the subject's own person; but one writer, Cambernon,¹ believed that myoma

¹ Cambernon, "Considerations sur la cause de la fréquence des corps et polypes fibreux de l'uterus," *Gaz. Médicale de Paris*, 1844, No. 5, p. 65.

originated from an infertile ovum that from some cause or other was obstructed in its passage and became "stuck fast" in the uterine tissue. The passage of the infertile ovum, he says, through the fibres of the matrix is the same as that of fertile ova in interstitial pregnancy. This was in 1844, before the days of Tait, and we can therefore imagine what his ideas were of the latter process; but putting this writer on one side, we find Ricker¹ describing distinct epithelial relics in them, which he believed were remains of the primitive epithelium of Müller's duct, and in his drawings abnormal ingrowths of muscle cells around the Wolffian duct are shown. Max Voigt² detected distinct glandular structures in two myomata. Hauser and Diesterweg trace these glands to Müller's duct; Nagel and Breus to the Wolffian duct. Von Babes found true epithelial growths in the interior of uterine myomata, and Von Recklinghausen³ traced them to the Wolffian duct. The latter found also similar growths in the wall of the Fallopian tube, and believed that these, too, had a similar origin. Meyer⁴ carried on these researches, and produced sections before the Berlin Obstetrical Society, displaying glandular structures in the muscular tissue of the uterus in the adult, and in new-born children. These structures, sometimes acinous, sometimes tubular, were histologically identical with the endometrium. He also showed sections of adenoma clearly derived from the Wolffian duct; whilst Klein's demonstration before the German Congress at Leipzig, in 1897, of the Wolffian duct in a new-born girl proved at least that such an origin was possible.

But full of instruction as all these cases are, they scarcely seem to cover the whole ground. The majority of fibromyomata do not show any internal glandular

¹ *Virch. Archiv.*, vol. cxlii., part 2, November, 1895.

² *Monatsch. f. Geburtsh. u. Gynäk.*, January, 1896.

³ *Brit. Med. Journ.*, 1896, vol. i., p. 665.

⁴ *Centralb. f. Gynäk.*, No. 24, 1897.

structures at all. The only gland tissue in connection with them is that of the endometrium stretched out over their surface; and another series of writers take quite a different view. Virchow, for instance, sees in them a hyperplasia of previously existing muscular fibres; Senn,¹ on the other hand, the results of the development of a matrix of myoblasts, existing independently of pre-existing muscular fibres between which the tumour arises; whilst Mary D. Jones² believes that they have their starting points in the inflammatory products of the organ, and Galippe and Landouzy³ discovered spherical cocci, which they believed to be the original *causa causans*. It is curious that in this last opinion, given in the *Medical Record* of this year by Dr. Jones, we go back to the original idea of Galen and Soranus, the former of whom declared, "Scleroma uteri est tumor subdurus in aliqua parte uteri exortus, qui plerumque ex diuturnis inflammationibus nascitur."

The view, however, which appears to have received the most general acceptance of late years, and which seems to furnish the key to much that is perplexing and difficult to understand in our experience of these growths, is that which ascribes the starting point of uterine fibromyoma to the over-development of the outer walls of certain uterine arteries or arterioles. It is thus described by Pilliet⁴: "The endothelium," he says, "remains normal; the adventitia gives origin to a zone of embryonic cells which multiply and develop into rows of concentrically-placed smooth muscular fibres arranged around the vessel. The fibrous layers arise from the transformation of the most peripheral muscular layers which are furthest from the vessel, and which, therefore, do not receive sufficient nourishment to allow of their normal development." Klebs, Meslay, and

¹ Senn, "Pathological and Surgical Treatment of Tumours," 1895.

² *Med. Rec.*, February 16, 1901.

³ *Soc. Biologie*, Fev. 19, 1887, p. 103.

⁴ *Bull. Soc. Anat.*, Paris, Jan., 1894, p. 4.

Hyenne¹ agree with this description of the initial stage. Kleinwächter,² Roesger,³ and Gottschalk mainly differed as to the relative size of the arteries involved, the first attributing it to changes beginning in the smallest, Roesger to those which possess an adventitia, and Gottschalk to the larger arteries.

Kleinwächter says that there are in the tiniest myomata blood vessels hardly bigger than capillaries. They are surrounded by round cells (*rundzellen*), and he believes that these change into spindle-like cells, which finally resemble perfectly organic bands of muscle fibre (*muskelfasern*). Costes says that the myoma depends for its development on the capillary vessels in whose adventitia embryonic cells are formed, which give rise to the formation of the smooth muscle elements. Gottschalk describes sections showing arteries with abnormally thick walls. Möller mentions these, and says they are not myomata, but gives no reason for that opinion; whilst Roesger says that as in the foetal uterus the arteries affect the direction of the muscles, so it is in the case of the smallest myomata.

If this view is accepted many things become clear. Arteries already lie in a bed of connective tissue, which separates them from the muscular fibres around. As a portion of the vessel enlarges this will be more and more compressed until it would very well form a band of fibrous tissue around, answering to the capsule, which when divided, permits of the ready disengagement of the tumour from its environment, a fact which we constantly note in enucleation of these masses. The low nutrition of fibromyomatous masses is easily understood if we consider that blood can only reach it in any quantity through its central

¹ *Bull. Soc. Anat.*, Paris, 1897, pp. 823 and 974.

² Kleinwächter, "Zur Entwicklung der Myome des Uterus," *Zeitsch. f. Geburtsh. u. Gynäk.*, Bd. ix., 1883, S. 68.

³ Roesger, Paul, "Über Bau und Entstehung des Myoma uteri," *Zeitsch. Geburtsh. u. Gynäk.*, Bd. xviii., 1890, S. 131.

channel, except for the fine vasa vasorum which still perforate it from without, and that the calibre of this central channel must be progressively encroached upon by its own growth. In one of the sections I propose to show you, this, I think, is well illustrated. The whorled appearance of the fibres characteristic of these neoplasms is also what might have been expected. All uterine arteries are convoluted, to permit of the ready alteration necessary in gestation, and especially in parturition. The fibres of a growth originating in them must necessarily be convoluted also. Even the increased growth of these tumours during pregnancy, and their corresponding decrease during involution, is more easily comprehended if we look upon fibromyoma as essentially a disease of the uterine vessels themselves, and not of comparatively indifferent tissues. Lastly, the difference between the rapidly growing and soft tumours of the cervix, and the hard, more slowly enlarging tumours of the fundus may be explained by the freer and more direct supply of blood to the former through the lower branches of the uterine artery.

It must, however, be admitted that this view by no means meets with unqualified acceptance. Möller,¹ in 1899, after examining a large number of the minute myomata found in the capsule of larger growths, disputes the conclusions of Roesger and Gottschalk, and appears to consider the question disposed of since he has demonstrated the entrance of more than one vessel into these masses. I cannot see, however, after a careful examination of the drawings which illustrate his treatise, that these are necessarily any other than vasa vasorum, and some of his facts, as for instance that all the smallest tumours are entirely composed of muscular tissue, rather tell in favour of the theory we are discussing than against it.

But most observers, like himself, appear to have directed their attention entirely to the tumours already

¹ Möller, "*Studien zur Etiologie des Uterus Myoms*," Berlin, 1899.

formed. I beg to suggest that more information as to the truth or otherwise of this theory especially might be anticipated from a study of the *uterus* from which they have been taken. It is common experience that any uterus in which a fibromyoma is found is likely to contain others more or less developed; that if it apparently only contains one, and that is removed, sooner or later another will be formed.

One of the cases from which the last sections shown were taken is a good illustration of this. The woman originally came to Ancoats Hospital in February, 1896, with a well marked single intramural fibromyoma in the anterior wall, which was treated by vaginal myomectomy. She recovered, but returned in June of the present year with another single, but this time polypoid, growth of the same nature—*i.e.*, five years after; but every gynaecologist has met with similar specimens. Now, if this theory be indeed true, it is only necessary to go a step further back; and it will be natural to suspect that in such a uterus, even if no other palpable or visible masses can be detected, at least we ought, under the microscope, to find arteries deviating in some way from the normal; that here or there we should find a section of an artery in which hypertrophy of the median layer is commencing; and acting upon that idea I commenced a search through these slides for such an appearance. The results I wish to lay before you. It is for the Fellows of this Society to say whether the slides I show, the originals of which will be found under the microscopes on the table, assist at all in arriving at some judgment as to the trustworthiness of Pilliet's theory. Under the microscopes, indeed, I think you will find nearly all the stages from slight to great median hypertrophy, for when you begin to search for them it is astonishing how many you can find in some uteri—not in all. Some of these were found too late for reproduction as lantern slides, but enough are shown, I think, to render the point clear. At the time these lantern

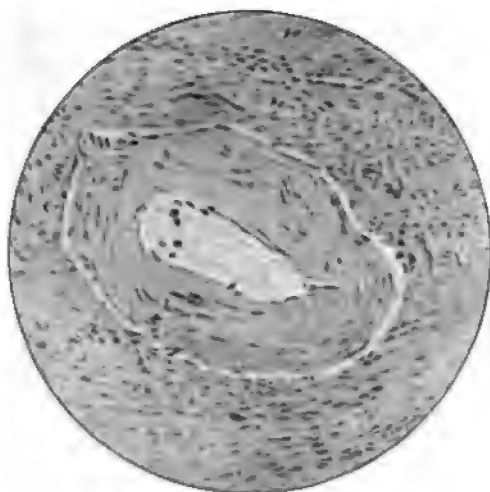


FIG. 1.—Showing early stages of hypertrophy of the arterial median coat.

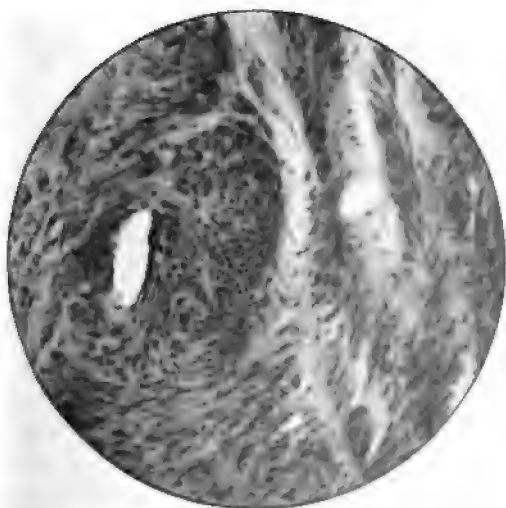


FIG. 2.—Irregular thickening of the muscular wall.

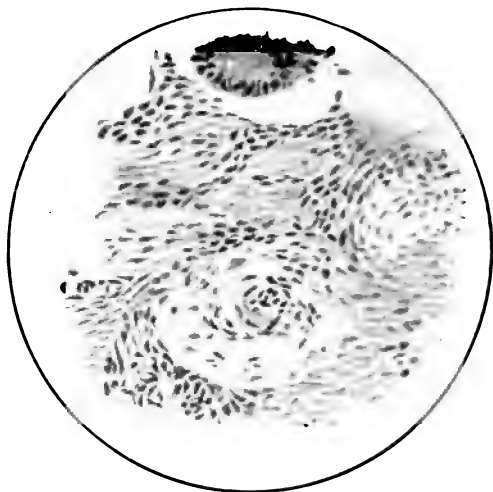


FIG. 3.—Hypertrophy of arterial muscular wall has obliterated its lumen.



FIG. 5.—Considerable hypertrophy of muscular layer. On the left, a mass of fibres are seen running longitudinally in the axis of the arterial lumen, within the circular fibres, but outside the intima.

slides of arteries were made I was unable to get photographs direct ; they are reproduced from drawings by a very clever artist, Miss Bradbury. I would merely add that I have not been able in them to see any zone of embryonic cells, with the powers—Zeiss $\frac{1}{8}$ th, and $\frac{1}{18}$ th oil immersion—I have used, but that there is in some of these sections marked hypertrophy of the arterial media will, I think, be admitted, whatever bearing such appearances may be deemed to have upon the question of etiology.

In the first slide I have had photographed a normal artery with normal walls taken from one of these uteri, for purposes of comparison. All these slides are taken with the same powers of the microscope—Zeiss E. objective, No. 1 ocular, tube not drawn out, or, in other words, magnified 280 diameters.

In the second slide (fig. 1) I think it will be admitted that, in proportion to the diameter of the artery, the media is decidedly thicker. The ring of intima, with its somewhat nodular nuclei, is well seen.

In the third (fig. 2) this thickening is shown to be irregular. On one side the wall is much more hypertrophied than on the other. The intima, marked by its nuclei, can be seen on the sides of its lumen.

In the fourth (fig. 3) the hypertrophied wall has almost obliterated the lumen of the artery, but the circular ring of nuclei from the intima is still visible.

In the fifth (fig. 4), a group of arteries are seen, still containing some blood corpuscles. The gradual thickening of the media is very well shown, from the small, almost normal, artery below and on the left, to the greatly and very irregularly enlarged artery on the right, the enlargement being entirely in the muscular wall. In each the ring of nuclei showing the presence of the intima is to be noted.

In the sixth (fig. 5), a further stage of medial hypertrophy is shown, and this and the next, are, I think, particularly to be noted, in that the section in both appears to have

passed squarely across the artery, so that there can be no question of the appearance as having been due to any obliquity in the way in which the vessel was cut. In an oblique section the thickness would be accentuated at each end of the artery, whereas all portions of the arterial wall show an equal increase in width.

In the seventh, an artery with still thicker muscular wall is to be seen. The intima bridges over the irregular enlargement, and on the right where this is seen, a distinct thickening inwards encroaching on the lumen is worthy observation. The muscular fibres at each end appear to be blending with the uterine fibres around.

Whilst in the eighth (fig. 6), and last, a curiously tortuous artery, which has evidently been cut somewhat longitudinally, is shown: the intima well marked, following all its sinuosities, the lumen still containing some corpuscles; the media very irregularly thickened and at points almost obliterating the lumen; the adventitia, or cellular tissue bed in which the artery lies, isolating it from the surrounding tissues.

It is curious that Gottschalk has declared that myomata are developed from a strongly twisted section of one of the larger arteries, and this particular section would seem to give some colour to the statement; though I think the other sections do not. However that may be, the general result of my search would appear to show that the arteries in a uterus which has been the site of a fibromyomatous neoplasm do show certain changes in their structure differing from the normal; that those changes consist mainly of a more or less irregular hypertrophy of the muscular coat, and that it is perfectly possible that such hypertrophy carried to a sufficient extent might produce the masses or neoplasms which are known as fibromyomatous tumours.

If this is true it will be apparent that it has a very direct bearing upon practical questions: How far are we justified in retaining an organ in which this formation has once been demonstrated? Shall we entirely remove it, or shall we adopt the method so ably demonstrated and recommended



FIG. 4.—Group of arteries showing various stages of hypertrophy of muscu



FIG. 6.—Tortuous artery, cut somewhat obliquely, showing irregular thickening of the muscular wall.

All these arteries were found in the *uterine* tissue, not in the neoplasm.

here by Dr. Alexander, of Liverpool, or one of the many minor methods of a similar type? If we decide upon hysterectomy, shall it be the complete operation described by Mr. Christopher Martin, or the supravaginal amputation which finds so talented an advocate in Dr. Heywood Smith? All these are questions of so important and wide-reaching a character that I can only venture to suggest them to your minds. Without doubt very many more observations are required before a definite answer can be given, and I can only hope that the few I have been able to bring before you may excite far more competent minds than mine to still further investigate the matter, so that any doubts we may have may be set at rest.

It only remains for me, gentlemen, to thank you for the patient attention you have given me, and to hope that I may have succeeded in exciting your interest in this, to me, fascinating question.

Mr. J. H. TARGETT had examined sections of many uterine fibroids, and he thought that there was abundant evidence of thickening of the muscular coat of the vessels and of their fibrous sheaths. After a time the new material became fibroid and almost devoid of nuclei. This degenerative change was very characteristic of uterine myomata and enabled their structure to be easily distinguished from normal uterine tissue. As regarded the endometrium, he had in some cases found hyperplasia especially affecting the stroma, while in others the endometrium had been thinned by distension and its glandular follicles had become disarranged or even obstructed at their mouths, causing retention of secretion, and shed epithelium in their acini. He had never met with tubules lined with epithelium in the substance of a fibroid, and therefore did not think that these tumours commonly originated from congenital relics in the uterine walls, as stated by some observers.

Dr. MACNAUGHTON-JONES said that endometritic changes were among the commonest degenerations found in myomata; one point he wished to emphasise, one which Mr.

Bishop's paper drew attention to, namely, the danger of curettage in some cases of myoma. The operation of "scraping" was so commonly resorted to that it was just as well to remember that in certain forms of myoma it was worse than useless, and some women dated all their worst symptoms from the operation of curettage. Hæmorrhage, for instance, which had been comparatively trifling before, increased.

Dr. STANMORE BISHOP replied. He hoped that Mr. Targett in future researches would record the changes observable in the vessels of the endometrium and the glandular structures. He agreed with the remarks as to dangers of curettage in certain cases.

Dr. MACNAUGHTON-JONES then demonstrated several recent gynæcological appliances, including a most useful flushing retractor employed by Professor Leopold for vaginal operations, and a new self-retaining trocar of Kœberle for ovariectomy. He described the Zweifel suture, and showed the gut used in his klinik, which is thus prepared. It is wound on a glass plate with ground edges, so as not to cut it. It is next placed in chromic solution 1 in 1,000, for fifteen minutes, and then washed in water. It is a second time for fifteen minutes placed in the chromic solution, and dried at a temperature of 80° C. It is then made into rolls and subjected to 100° C. The final drying must be complete. It is then placed in cumol for an hour and a half, at a temperature of 160° C. It is now put into benzine of petroleum with a sterilised forceps, and the benzine is changed once (after half-an-hour), and fresh benzine put in. It is then placed in sterilised glasses, and is ready for use.

The new bronze aluminium wire, as employed by Professor Bumm, of Halle, he had used in several abdominal sections, and it made a clean and perfect continuous or interrupted skin suture, the result being exhibited in the photograph. Professors Krönig and Menge used a cotton thread permeated with collodion for the same purpose.

The Zweifel suture was demonstrated, as also the advantages of the use of Kocher's forceps in hysterectomy, in lieu of either the clamp method of Doyen or Zweifel. Reference was made to a new mode of dressing in the abdominal toilet carried out at Professor Sanger's Klinik by Dr. Kleinhans. The first dressing was covered with the material "colletin," which hermetically closed the abdominal surface.

BRITISH GYNÆCOLOGICAL SOCIETY.**THURSDAY, JANUARY 9, 1902.****J. A. MANSELL MOULLIN, M.A., M.R.C.P., PRESIDENT, IN THE
CHAIR.****ANNUAL MEETING.***Treasurer's Report.*

IN presenting the Annual Balance Sheet to the Fellows, I regret that I have but to echo the statement of my predecessor on the like occasion last year. Troublous times tell especially on a Society such as ours, which draws its Fellows largely from the General Practitioner division of our body, who must necessarily be the most affected by the financial atmosphere. We have not, therefore, received in the past year that accession to our ranks that we might justly expect, whilst beyond the natural yearly loss that must occur to all such Associations, we have to note a small extra diminution owing to the withdrawal of some few who may wisely consider even our subscription, we may hope temporarily, an unjustifiable addition to the "per contra" side of their banking account.

There has been a most careful watching on the part of the Council to keep the Society's working expenses within the utmost moderation; the one excepted instance being the cost of the Journal, naturally deemed by them the backbone of the Society; and whilst sparing no just cost to keep it up to its present unparalleled excellence, they have closely considered every item, in the hope of being enabled to reduce any undue expenditure. In this work the Council have been most kindly and ably, nay, I may say

The British Gynaecological Society.

Dr. BALANCE SHEET FOR YEAR ENDING DECEMBER 31ST, 1901. Cr.

	£	s.	d.		£	s.	d.
To Balance brought forward from 1900	58 15 4	By Cost of Journal and Notices of Meetings, &c.	...	...	245 3 4
" Fellows' Subscriptions	280 4 2	" Rent and Attendance...	...	...	54 15 0
" Surplus from Dinner of 1900	5 4 4	" Honorarium to Editor	...	...	78 15 0
" Advertisements in Journal	24 1 10	" Reporting, &c.	...	...	21 6 5
" Dividends on Investments	10 8 2	" Hire of Microscopes	...	...	2 16 0
" Interest on Deposit at Bank	2 1 6	" Dr. Macnaughton-Jones (re Cheque Lost)	...	...	10 10 0
" Deposit Withdrawn from Bank	100 0 0	" L. & S.W. Bank (re Dr. Dewar)	...	...	1 1 0
" Sundries	1 4 6	" Tuberculosis Congress	...	...	1 1 0
				" Obstetrical Society	...	...	1 1 0
				" Mr. Doughton (Porter)	...	...	1 0 0
				" Bank Charges	...	...	0 10 8
				" Petty Cash (Treasurer's Postages, &c.)	...	...	3 14 4
				" Balance at Bank	...	...	54 18 7
				" " in Hand	...	...	5 7 6
							<u>£481 19 10</u>

We hereby certify that the above account is correct, having examined all books, vouchers and counterfoils in connection therewith. Also that the Society holds the following Securities: £270 Grand Trunk Railway 4% Debenture Stock, and £5 Caledonian Railway 4% Preference Stock, in the possession of the London and County Bank, Kensington, of which the Treasurer holds the receipt, dated December 5th, 1901.

Signed, C. H. BENNETT, }
F. A. PURCELL, } *Auditors.*

enthusiastically, assisted by our devoted Editor, Dr. Macan, who, after much patient labour, furnished a most minute analysis of the working expenses, in the various individual items, over several years past, showing at the end, alas! only that our various editors had provided the Fellows with a Journal consisting of the maximum of excellence at a minimum of cost. Our Journal remains the most complete and classical epitome of the gynæcology of the world that can be produced.

I leave the few items of the balance sheet to speak for themselves.

On the motion of Dr. HEYWOOD SMITH, seconded by Mr. BOWREMAN JESSETT, the Treasurer's Report was adopted. A vote of thanks to the Treasurer was unanimously carried at the same time.

Editor's Report.

The four numbers of the Journal issued during the year 1901 contain forty sheets, or 640 pages, a number slightly less than that in some former years; the difference in the amount of matter contained is more apparent than real, owing to the increase in the Summary of Recent Literature, each page of which, being in smaller type, is equivalent in matter to about one-third more than a page of the first part of the Journal.

The February number, completing the sixteenth volume of the Journal, contained the Proceedings of the last two meetings of the Society in the year 1900; the reports of these meetings were prepared and revised by Dr. Arthur E. Giles before the Society, and the Editor, were, by his resignation, deprived of his valuable assistance.

The work formerly done by Dr. Giles has during the year 1901 been under the care of Dr. Macnaughton-Jones, Jun. The way it has been carried out gives ample evidence of the care and ability he has devoted to it, and the arrangements made for the conduct of this part of the Journal at

the last Annual Meeting will, with the approval of the Fellows of the Society, be continued for 1902.

The length of the Proceedings depends not only upon the number and length of the communications made to the Society, but upon the character of the discussions upon them. The Proceedings for 1901 occupy approximately the same number of pages as those of 1900, and contain many papers of very great importance; the original communications not read to the Society also occupy about the same space as in 1900. It seems undesirable here to specify any of these communications as more important than others; they are before the Fellows, and each of them has its peculiar interest.

The number of new books sent for review has been considerable, and the section of the Journal devoted to this work has been considerably enlarged during the last three years. The Editor desires to acknowledge gratefully his indebtedness to the Fellows of the Society who have given their help, many of them anonymously, in various reviews.

The Summary of Gynæcology and Obstetrics has during the year extended to 220 pages of closely printed matter. The independent numbering of the pages in italics not only increases readiness of reference by allowing the quarterly sections to be arranged consecutively in the bound volume, but, as was expected, facilitates the making up of the number.

In the preparation of the Summary of Gynæcology and Obstetrics the Editor has been greatly assisted by his collaborators, and particularly so by Dr. Frederick Edge, Dr. Hebert, Dr. Henry Jellett, Mr. Furneaux Jordan and Mr. Christopher Martin.

The Index to Volume XVI. will be found more compact than in previous volumes; the alteration in the arrangement, which reduces the number of pages to about one-half, has been effected more with the view of facilitating reference than of reducing its cost; the work of preparing it has been increased.

The illustrations in the four numbers include ten figures on plate paper and thirty-two in the text. A great part of the expense of these illustrations, some of them indispensable to explain the text, and others so interesting in themselves and so well executed as to be extremely valuable to gynæcological science, has been borne by the contributors. The cost of illustrations which can appear in the text is comparatively small compared with that of those that must appear on plate paper. The whole question of illustration is under the consideration of the Journal Committee, but as it was found to necessitate a search into the Minutes of the Council as to the Resolutions which should guide them, the Journal Committee have not yet been able to report on the question.

The Journal Committee have met from time to time during the year and Minutes of their proceedings have been regularly kept for the information of the Council.

JAMESON JOHN MACAN, M.D.

Dr. MACNAUGHTON-JONES in proposing the adoption of the Editor's report said that the backbone of the Society was its Journal. He could not conceive the Journal of a Society more brilliantly edited than the organ of the British Gynæcological had been for a number of years. It would be difficult to exaggerate the labour involved in preparing a summary, such as appeared in the Journal, of each communication to gynæcological literature, which might prove of interest to gynæcologists generally, irrespective of the language in which the original appeared. In addition, however, to the complete and able summary, the Journal contained communications from leading gynæcologists in England, the Colonies, and foreign countries. It was primarily a Journal of gynæcology of the British Empire, though embracing, like the Society, a wider field. During the past year a rival had entered the lists. They neither feared nor resented competition; but they could hardly regard with approval the adoption of the title of the British Gynæcological Journal inverted, but other-

wise virtually unaltered. He deeply regretted, as did all the Fellows of the Society, the cause of Dr. Macan's absence, and sincerely hoped the improvement in his health might be permanent, without regard to the invaluable services which he had rendered to the Society in raising the Journal to a higher level than it had ever hitherto reached.

Mr. BOWREMAN JESSETT, in seconding the resolution, said that imitation was the sincerest form of flattery, and certain gynæcologists in founding a Journal, which was as close an imitation of the British Gynæcological as was permissible, had given unwilling expression to their estimate of its success. It rendered it imperative, however, that the tone of the Journal should remain at its present level, and he wished to endorse all that Dr. Macnaughton-Jones had said when referring to their very able editor.

SPECIMENS.

FIBROMYOMA OF THE UTERUS, WHICH HAD UNDERGONE NECROSIS, REMOVED BY ABDOMINAL CÆLIOTOMY.

By F. A. PURCELL, M.D., M.Ch. (Surgeon to the Cancer Hospital).

The patient, a single woman, aged 43, had noticed a lump, the size of a walnut, in the left side about eight years previously. This had gradually increased in size. Her general health remained unaffected, and she had suffered from neither constipation nor indigestion. Menstruation had been regular till within three months of admission, though usually accompanied by sickness, and always by pain, which commenced a few days before the catamenia appeared. During these three months the pain had for the first time increased, the catamenia had become excessive, the last two periods being separated by a week only, and the patient had to pass water about every three hours during the day and twice at night.

On admission, the centre of the abdomen was occupied

by a large, kidney-shaped mass, the concave border of which was situated below, and the two sides of which could be moved separately to a slight extent. The tumour felt semi-cystic on its upper surface and left side. Below and to the right side there was a smaller mass, separate and tender.

Per Rectum.—A large immovable mass could be felt completely filling the pelvis proper. The rigid condition of the hymen, which was intact, precluded vaginal examination.

Operation.—On November 27 the abdomen was opened in the middle line. No adhesions were found. The upper, apparently cystic, portion of the tumour was tapped, and the tumour after some difficulty was brought out. A cyst of the right broad ligament was found and enucleated, and the uterus with the tumour removed. In order to shorten the stump, I took away about another inch of the neck of uterus. The cut surface was touched with strong carbolic acid, as was also the os. Iodoform gauze was passed down into the vagina; the stump had a couple of sutures inserted, and the edges of the peritoneum were brought together across the pelvis. The toilet completed, the abdominal wall was closed with interrupted silk-worm gut sutures. The patient made an uneventful recovery.

The interesting points in connection with the specimen were the presence of a hydrosalpinx in the right broad ligament and the formation of what appeared to be two distinct cystic cavities surmounting the solid portion of the fibromyoma, the upper surface of which was covered with a thick layer of lymph, caused by the friction between it and the stomach.

On section, it became evident that the tumour was not cystic, but that its upper portion had become, owing to necrotic degeneration, converted into a cavity filled with fluid and necrotic tissue. The pelvic portion, though solid, was also necrosed.

THREE CASES OF MYOMA UTERI. By F. BOWREMAN
JESSETT, F.R.C.S.

CASE I.—Miss P., aged 43, has had inguinal hernia on the left side since twenty-four years of age, and on the right side for five years. She has been treated for uterine displacement for eight years, and two years ago was treated for peritonitis and appendicitis. She has suffered considerable pain and irritation of the bladder for some time past, and has also had a foul vaginal discharge.

On examination the left hernia is very pronounced ; the right not so apparent. A distinct tumour is felt over the pubes and extending to the right side. Bimanually : The uterus is enlarged considerably and fairly movable. There is fulness in the left vaginal fornix.

Operation.—On December 9 I performed abdominal hysterectomy with the assistance of Dr. Robinson. There were a great many adhesions in Douglas' pouch, more particularly on the left side. The myomatous uterus was delivered with difficulty by means of Doyen's screw. It was then found that the chief tumour was situated in the right broad ligament, and it was removed by enucleation, the peritoneum having been first divided. The ovarian and uterine arteries were then ligatured, the uterus drawn out and a cyst of considerable size found in the left broad ligament. The uterus with its myomata were removed, and the cyst enucleated. On examining the left hernia a large portion of omentum was found to be strongly adherent to the sac. It was ligatured and divided, and the inguinal opening stitched over with a view to radical cure. The abdomen was finally closed in the usual manner. The patient suffered for three days from most violent anæsthetic vomiting, but has made a good recovery.

CASE II.—A. T., aged 48, married twenty years. Six children ; last born six years ago ; no miscarriages. Patient states that she noticed a swelling in the abdomen about two years ago, and it has gradually increased in size since.

During that time she has suffered from a dragging pain in the left side, extending down into the leg, and gradually increasing in severity. There had been some difficulty in defæcation for twelve months, and there had been frequency of micturition unaccompanied by a sense of relief for two years. Menstruation regular up to date of admission.

Examination per abdomen.—A large, mobile tumour occupied the iliac and umbilical regions. *Per vaginam.*—Uterus cannot be defined; the cervix is lacerated and drawn up, and the external os is flush with the fornices, which are free from infiltration.

Operation.—On opening the abdomen a large tumour at once presented itself. The left tube was drawn completely over it and disappeared behind it. The tumour was readily delivered by means of a Doyen's screw. I secured the uterine artery on the right side, but could not define the uterus. The tumour was evidently situated in the left broad ligament. I divided the peritoneum, stripped it off the tumour, and enucleated the latter. The uterus was then discovered deeply embedded in the pelvis, and completely enveloped in the tumour. I ligatured the uterine arteries, and divided the cervix. I experienced some difficulty in stitching the pelvic peritoneum over it owing to the extreme fatness of the patient, but with the exercise of much patience succeeded in neatly doing so. The patient made an uninterrupted recovery, and left the hospital about three weeks after the operation.

CASE III.—L. A., aged 43, had suffered from menorrhagia for about a year, and it had much increased of late, indeed the hæmorrhage was often alarming. I was asked by Shelmerdine to operate.

On examination a soft tumour the size of a cocoanut was found occupying the uterus; this had recently increased a good deal in size.

Operation.—On January 6 I performed subperitoneal hysterectomy. No difficulty presented itself. The tumour proved to be a huge submucous myoma. I preferred

removing the whole uterus to enucleation, as often the latter method involves considerable hæmorrhage, and in the enfeebled condition in which the patient already was, I did not think it wise to run the risk of any great loss of blood. Moreover, it had been pointed out by some observers that mono-tumours were occasionally malignant.

PRESIDENTIAL ADDRESS.

GENTLEMEN,—My tenure of this Presidential Chair has now come to a conclusion, and you will no doubt expect me to follow the usual custom and say a few words by way of a "Farewell Address."

It is not my intention to occupy your time with a recapitulation of the work accomplished during the past twelve months; you will find it all recorded, and can study it for yourselves in the pages of our most excellent Journal. We have listened to many excellent papers, and we have seen and discussed innumerable specimens of the greatest value and interest.

To give you even a brief analysis would be more than the time at my disposal would permit, and to mention some to the exclusion of others might appear somewhat invidious; but I cannot forbear alluding to the very important meeting of the Society in July last. That meeting I consider constitutes a veritable landmark in the progress of Gynæcology. On that occasion the paper read by Dr. Noble of Philadelphia, on the Complications and Degenerations of Fibroid Tumours of the Uterus, and the magnificent and unique collection of specimens to illustrate these various conditions, kindly brought together by Dr. Macnaughton-Jones, practically settled the vexed question as to the necessity for operation in cases of fibroid tumour. No one seeing those specimens could fail to be convinced of the dangers which ever threaten and attend the woman who carries with her a tumour of the uterus.

It is a matter for supreme congratulation that the

operation for the removal of these tumours, gradually evolved in the course of years, and mainly by the labours of this Society, has now attained such perfection that it can be employed without an appreciable risk.

It is not so long since we were discussing the possibility of a 5 or 10 per cent. mortality, and now our results are well within the former figure. In fact, we regard the operation with little more anxiety than the removal of cystoma of the ovary and expect our patients to convalesce as quickly. A perfectly true saying it is, that no safer tomb or burying place can be found for a good paper than the Journal of a Society, and I wonder how many of our Fellows ever look through their old Journals.

In the year 1892, just ten years ago, a paper was read before this Society by Dr. Heywood-Smith on Subperitoneal Hysterectomy, and although at the time the results of the operation were far from good, owing chiefly to imperfect asepsis, the author endeavoured to show that this mode of procedure would eventually become the operation of the day. How completely these anticipations have been fulfilled we all recognise, and the author must look back with a feeling of very considerable satisfaction on the reading of that paper, followed as it was by the most unstinted criticism from this Chair.

The various steps of the operation are known to you all and need no description from me. I would only offer, on the present occasion, a few hints and remarks based on my own personal experience, the result of many operations. The operation involves very considerable detail, and although the opening of the abdomen and the amputation of the tumour need not in a favourable case occupy a practised hand many seconds, yet that constitutes but a very small part indeed of the operation. A mere display of rapidity, as represented by the cinematograph, has nothing whatever to commend it but the applause from the gallery.

When the tumour has been raised out of the pelvis and the lower segment of the uterus is not involved in the

growth, nothing is more simple than to find the arteries on either side, and I am conservative enough to prefer to see them and secure them with a trifle of silk, to any process of crushing needing for the purpose a special instrument better adapted to all appearance to the requirements of the veterinary surgeon, or perhaps the farrier.

Having secured the ovarian vessels with a double ligature, I cut between them and extend the incision as far down as need be through that portion of the broad ligament which is free from vessels and then carry it across the face of the tumour to the opposite side, above the bladder, which is stripped down and pushed out of the way. The uterine artery is then secured on either side with a single silk ligature passed as close to the cervix as possible, and a clamp placed over the ligature. If the ligature should not have secured the artery efficiently, the clamp will do so, and it further enables my assistant to hold the stump more securely while I cut away the tumour. It is of importance not to complicate matters by the use of unnecessary ligatures and clamps—the fewer the better.

The amputation of the tumour should be at the lowest level possible. The reasons for this are obvious. The stump is smaller and more neat, there is less trouble from hæmorrhage, and the trunk of the artery will be found secured in the clamp and cut below the point at which it commences to divide into the substance of the uterus. There is no necessity to strip the peritoneum from the back of the uterus, to which it is closely adherent, in order to make a posterior flap. I bring the cut edges of the stump into careful apposition with deep and superficial sutures of chromicised catgut and then draw the anterior flap and the bladder well over the face of the stump and fasten it with a continuous suture of fine catgut from one side of the pelvis to the other. These constitute the steps of what may be termed a straightforward operation. The size of the tumour does not necessarily complicate the operation, but difficulties arise when the tumour cannot be

raised out of the pelvis, when the lower segment of the uterus is enlarged by the growth, when the tumour follows some anomalous course and burrows under the pelvic peritoneum, or between the layers of the mesentery or meso-colon, or when some inflammatory trouble, generally due to co-existent disease of the appendages, has resulted in endless adhesions.

The resourcefulness and experience of the operator are then put to the test, and every difficulty has to be met as it occurs. It may be the restraining bands are the broad and round ligaments, and when these have been divided and stripped down the tumour can be raised. If the uterine arteries can be secured it may be advantageous to remove the upper portion of the tumour before dealing with the lower segment. On several occasions I have successfully divided the lower part of the uterus vertically, either posteriorly or anteriorly, and have thus been enabled to enucleate another separate tumour from the cervical region. Much of the superfluous capsule can afterwards be removed and a very neat stump eventually secured. The ureters in this operation are fairly safe when the bladder has been well stripped down and pushed out of the way. At any rate it has been my good fortune not to have experienced any difficulty in this respect, although on more than one occasion the gaping mouth of some vessel has caused a passing anxiety. If discovered at the time I believe the simplest and safest operation is to fasten the end into the roof of the bladder.

All the steps above described take time, but I am sure it is not wasted. The after success of the case and the future comfort of the patient depend not only upon a complete asepsis which I take for granted, but also upon the perfect fulfilment of all those minutiae which distinguish the work of the practised operator. A line of suture is all that remains in the peritoneal cavity when the wound is closed.

And now a very important part of the operation remains

to be completed—the closure of the abdominal incision, which in these cases is necessarily a long one. I shall briefly give you my views on this matter.

The strength of the abdominal parietes depends entirely upon the fascia or aponeurosis. It is, therefore, essential to secure an accurate adaptation and firm union of the cut margins of this, the middle layer. Any failure to do so inevitably results in the formation of a hernia.

You must bear in mind that the aponeurosis splits to form the sheath of the rectus muscle on either side. In the lower two-thirds of its extent that layer is strongest which lies in front of the rectus muscle, but in the upper third the strongest layer lies behind the muscle. In the lower two-thirds the peritoneum is separated from the aponeurosis by a large quantity of cellular tissue and subperitoneal fat, while higher up and above the level of the umbilicus this cellular tissue and fat disappear, and the peritoneum is closely applied to the fascia.

Consequently, I adopt a different mode of suturing in these two regions. In the lower part, which is invariably the seat of hernia when it occurs, I sew the three layers, peritoneum, fascia and skin, separately; first, the peritoneum with a continuous suture, then the fascia with interrupted sutures, and finally the skin with another continuous suture.

In the upper region, when there are only two layers, and consequently it is quite unnecessary to make a third, I suture *en masse* with silkworm gut. The inner layer, composed of peritoneum and fascia, and the outer layer of skin, are in the nature of things bound to unite, and no better mode of suturing can be desired.

For buried sutures I always employ fine chromicised catgut, finding from experience that it can be rendered perfectly aseptic. Moreover, it possesses that most essential quality for a buried suture—it lasts sufficiently long to permit the tissues to become firmly united, and then itself becomes absorbed, approximately in about three weeks' time.

Since adopting this mode of suturing I have not had a single case return with a weak scar. Silk I have long discarded, as quite unreliable. At the present time I have a patient under observation who underwent what was considered a brilliant and most successful operation at the hands of one of the surgeons at Guy's, and who two years afterwards is still engaged in trying to extract the bits.

And now I wish to say something on the subject of the repair of hernia when it occurs in an operation scar. My remarks have been suggested by a case of very exceptional interest recently brought before the Society by Dr. Macnaughton-Jones. He adopted the novel course of closing the inner layer of fascia with buried sutures of wire.

I have already expressed my views on the subject of buried sutures, and it appears to me contrary to all the axioms of surgery that any foreign body under the skin or tissues can be a source of strength, but of that time will tell, and the ultimate result of his case will be awaited with interest. In repairing a faulty scar the object to be aimed at is the restoration of the parts to their original condition; to find and bring together the edges of the middle layer or aponeurosis, which for some reason have failed to unite, and have retracted and become shut off by the union of the peritoneum with the skin, these two layers alone forming the covering of the hernia.

I first carefully open the skin at its thinnest part, taking care not to injure the bowel, which is often adherent beneath. The hard margin of the opening, easily felt before commencing the operation, unaccountably disappears, and in order to find the fascia it is necessary to carry the incision upwards and downwards through the whole extent of the rupture and into the sound structures beyond. Here the aponeurosis is readily discoverable, and turning the flaps up I divide the peritoneal surface with the scissors (those used for the perinæal operation are the best), and open the sheath of the rectus, starting from the aponeurosis in the lower part of the incision, and carrying it

round to that in the upper. After carefully removing all old scar tissue, and freshening the edges of the aponeurosis, I bring them together with chromicised catgut in the manner already described. I have had good results and some of the cases are still under observation.

Gentlemen, there are many other topics of equal interest which I might dwell upon, but in an address of this kind brevity is not the least virtue. It remains for me to thank you, one and all, for the courtesy and kind assistance you have always afforded me in carrying out my Presidential duties. My term of office, I can assure you, has been one of the most sincere pleasure to me. It has been my endeavour to maintain the good social feeling which is a notable feature of this Society, to encourage discussion, and extend more widely the interest taken in its proceedings. That I have not been altogether unsuccessful is evidenced by the good attendance at our meetings throughout the year, and I must take this opportunity to thank our Provincial Fellows, who at great trouble and inconvenience to themselves, have done so much to contribute to the interest of those meetings. And now, I have a suggestion to offer. I wish to suggest to you a practical way in which every Fellow may show his interest in the Society and do something to materially promote its welfare, and that is by not failing, when the opportunity presents itself, to draw attention to the valuable work this Society has done and is doing, and the welcome that is always extended to visitors and younger members who are anxious to take part in the proceedings. From one cause or another, removals, resignations, deaths, a constant drain on our numbers is always taking place, and numbers, after all, constitute the strength and backbone of a Society, and render its financial position secure. If each Fellow would but take the trouble to do this, and introduce one friend, our numbers would be exactly doubled. The calculation is not an abstruse one—I commend it to your kind consideration.

And now, Gentlemen, I trust that all shortcomings on

my part during the past year will meet with your sympathetic indulgence. Words fail me to express how deeply I feel the great honour you have conferred upon me in electing me to this Chair, after the distinguished members of the profession who have already filled it, and now I am proud to hand it over to one no less distinguished, Dr. Halliday Croom, President of the Royal College of Surgeons of Edinburgh.

I have no fear that the future of this Society will be marked by the same brilliant record of success which has hitherto attended it, and while his eminent position and exalted abilities will bestow a new lustre on the Society, our proceedings will, I am sure, not fail to add to his dignity and renown.

The formal business included the election of Officers for the year, a complete list of whom will be found at the end of this number of the Journal.

ORIGINAL COMMUNICATIONS.

GYNÆCOLOGY ABROAD.

BY H. MACNAUGHTON-JONES, M.D., M.A.O., M.Ch.

A SHORT description of a visit paid to six well-known Frauen Kliniks at the close of last year may be of sufficient interest to the readers of the Journal to justify the absorption by me in its pages, of the space the Editor has kindly placed at my disposal.

MUNICH.

The Frauen Klinik at Munich is a comparatively old one. It is under the direction of Professor v. Winckel, who has with him five assistants. It is a State institution. In the obstetrical department there are about 1,300 births per annum; there is also an external maternity department, in which some thousand cases are attended to. Unfortunately during my stay in Munich, Professors v. Winckel and Amann were absent, but Dr. Otto Seitz afforded me every facility for seeing the cases in the klinik, and I had the privilege of being present at some rather extensive plastic operations performed by Dr. G. Wiener, the senior assistant. Catgut is used in cœliotomy, hysterectomy being carried out by ligature. Doyen's forci-pressure is not resorted to. In vaginal hysterectomy clamps are employed as well as Paquelin's cautery, followed by suturing with catgut. Professor v. Winckel always

operates by supravaginal hysterectomy rather than pan-hysterectomy. Ligatures are altogether relied on for hæmostasis. In retro-deviations, if the uterus be fixed, ventrofixation by abdominal cœliotomy is performed; if it be free, vaginal colpotomy and fixation of the uterus near the fundus to the peritoneum of the bladder is resorted to.

SCHOOL FOR MIDWIVES.

Immediately behind, and communicating with the Frauen Klinik, is the new School for Midwives, a building which is the most complete of its kind I have ever been in. It has cost, I believe, nearly a million kronen to complete, and is a three-storied building with a basement. A short notice of it may be interesting. In the basement are the kitchens, baths, store-rooms, engine-room, and the lift machinery. On the ground floor, rooms for the honorary physicians and the porters, a tea room, and four large rooms for the students, with accommodation for forty-five of the latter. In the centre of the building is one large staircase. On the first floor there is one large obstetrical ward with a graduated centre platform and cemented walls. There are also three large adjoining rooms, with twenty-one obstetrical beds, a large bath-room, a lecture hall, and another tea-room, with rooms for the manager, assistant physician and head midwife. On the second floor is also a large lecture-room for students, a room for the lecturer to prepare for lecture; models, instruments, and all necessary appliances for demonstration; also a fairly large examination room, and one for instruction and examinations, with reading-rooms for the physicians, and others for the attendants and servants. There are here also isolation rooms for the lying-in patients. On the third floor are a room for keeping the records and details of all cases entering the school; pathological rooms; two anatomical rooms, as well as those for all necessary materials used

in the school. The whole building is provided with low-pressure central heat, electric light, and electric ventilation.¹

There are two courses annually of four months' duration each. The forty-five students have to receive permission to study from the State, and the limits of age are from 20 to 35, the necessary qualifications being a certain knowledge of arithmetic, good reading and writing. The students are restricted from any operative interference save in breech cases. The material for instruction is obtained from some two hundred labours in each course. The rules for the conduct of students are of the strictest character. They are responsible for the entire cleanliness of the building, while they have rigidly to observe certain regulations with regard to their letters, extern visits, or recreation. Three students are permitted to attend at an obstetrical case. These are summoned by the ringing of an electric bell, and under certain conditions the whole dormitory is in the same manner notified. Each woman in labour, having once entered the hospital, is taken to the preparing room, and immediately seen by the physician and the head midwife. No student is allowed to undertake an internal examination save in the presence of one of the Staff, and precise notes of the case and its progress have to be taken by the student in attendance. Should there be any breach of the rules on the part of students, they are first reprimanded; a second breach is followed by a still more severe reprimand, and a third by dismissal, against which there is a right of appeal to the State.

This is but a bare sketch of one of the most perfect medical institutions that we can well conceive of. The character of the training, the severity of the rules imposed on the students, the extensive course of instruction, with the necessity for passing the periodical practical tests by examination until the final examination, the whole surroundings of the building in which they are trained,

¹ Complete plans of this building are in the author's hands.

as well as the very strict limitation from any assumption of responsibility outside their sphere as midwives, afford the greatest guarantee against the registration by the State of a quasi-educated or meddlesome midwife. I have thus particularly noted this educational institution in view of recent discussions on the Midwives' question.

Each student at the close of her career becomes a "certificated midwife," each certificate being signed by the director of the hospital, the assistant, and the government official. Every two years she has to pass a short test examination by the State physician, and her practice is strictly limited to what are termed "straightforward cases."

PRIMARY SARCOMA OF THE VAGINA.¹

Apropos of a case of primary sarcoma of the vagina which I recently brought before the Society, and a few notes of which appear elsewhere in this issue of the Journal (p. 284), I may refer to a paper Dr. Otto Seitz² has written recently on this subject, with some valuable statistics which show the comparative rarity of the disease. Of 8,287 cases of cancer in Paris only fourteen were primary vaginal carcinoma. Much rarer still is vaginal sarcoma. In 1872 the first case was published, and up to 1899 there had been 32 cases recorded. With regard to the seat of vaginal sarcoma in adults, in fifteen cases it occurred in the anterior wall and in the posterior wall in ten. Of twenty-seven patients, ten were under 31, six under 40, and two over 60, while one was 76, and another 82 years of age. Cohnheim thought that the degeneration was due to a microbe remaining from the embryonic state. This might be possible in children, but not in adults. It is, however, more likely to be started by some local irritation. Its circumscribed form in adults has been mistaken for fibroma,

¹ *Über primäres Scheidensarkom.*

² *Erwachsener (Lymphendothelioma)*, by Von Otto Seitz, München (*Gynäkologie* No. 103).

fibromyoma, cysts, or sloughing polypus. When ulceration has occurred, it has been mistaken for carcinoma, tubercle, and syphilis. Unfortunately, advice is usually sought too late for complete removal. There are only three known cases of complete cure. The author gives most interesting information as regards the pathological features of the disease as it has occurred in the various cases recorded.

DURATION OF PREGNANCY.

Professor v. Winckel has lately written an interesting paper on the duration of pregnancy, from which some deductions and facts are of interest. Ahlfeld and Schlichtung have calculated the first pregnancy from the wedding day at 269·91 and 269·84 days respectively; others at 272 to 275 days, and Schlichtung gives a lower limit of 236 days, and the upper of 334 days, whereas Issmer, of Munich, out of 1,298 pregnancies found that 6·4 per cent. lasted 300 days. The following were some of the factors influencing the duration: Increased number of pregnancies; the age of the woman, there being an increase up to the age of 35; the type of menstruation—Schroeder and Issmer differ from Pinard in regarding short intervals of menstruation as predisposing to prolongation of pregnancy. So far as sex of child is concerned, the duration appears to be somewhat greater for boys than for girls. Heredity may influence the duration, the social condition and time of year also appear to affect the duration, the pregnancies from October to March being longer than those from April to September, while the duration was longer in strong and fair women than in weak and dark ones, while increased length and weight of the child appeared to lengthen the duration of pregnancy. In the same paper Professor v. Winckel gives some interesting statistics as regards the length and weight of newly-born children, from which it would seem that the children of young mothers are not so well developed as those of older ones, and that the children of multiparæ

weigh more than those of primiparæ. Issmer estimates that a length of six centimetres increases the duration of pregnancy by about nineteen days. v. Winckel divides into four groups the views of authorities. For example, Kleinwächter, Charpentier, Zweifel, and Schauta do not believe in the prolongation of human pregnancy. Sâxinger, Kormann, Gusserow, fix the upper limit at from 300 to 302 days. The third group gives the upper limit as 308 days, while the fourth fixes it at 320 days. As regards the relative frequency in the birth of boys and girls, in Dresden and Munich there were two and a quarter times as many boys born as girls. The Japanese have fixed the duration of pregnancy for a primipara at 300 days, and in multipara 275 days, the reverse, it will be seen, of the opinions just stated. In Turkey, a child born, after the woman is widowed or divorced, between the seventh month and two years is legitimate. The code Napoleon fixed the upper limit at 300 days; in Prussia it is 302, and in some Swiss cantons 308.

RUPTURE OF PREGNANT UTERUS.

Another interesting recent paper of Professor v. Winckel is that in which he discusses the indications for closing the rent in a ruptured pregnant uterus. The question arises out of the cases reported by Schäffer, Richter, Zamperelli, Klein, Riedinger and Döhrn, five in all, in which the rent healed without suture, the vagina having been plugged, and the abdomen compressed by a belt. v. Winckel had a case of this nature himself, and Therard, Nissen, Winter, and Hintze did not use sutures. All the cases recovered except that of Winter. v. Winckel, however, does not lean to the side of non-suture. He quotes eleven cases, nine of which recovered. In these the abdominal incision was not closed after the extraction of the child, the view being that thus we are better able to estimate how the uterus is progressing.

Looking to the three operations, Porro, abdominal, and vaginal total extirpation, he cites the results in ten cases of Porro in which there were only two deaths. v. Winckel does not favour total extirpation, nor does he advise drainage. Should the foetus be only partially expelled through the rent Professor v. Winckel extracts it and the placenta *per vias naturales*, repairing the rent by a coeliotomy, but if the foetus be completely expelled he performs coeliotomy and extracts it, ligaturing the vessels first, then placing a row of muscle sutures, covering these by the peritoneum with continuous catgut suture. The abdominal cavity is then thoroughly cleansed and the abdominal wall sutured in layers.

THE JOSEPHINUM.

WERTHEIM'S OPERATION.

On October 9 I visited the Klinik of Professor Gustav Klein, at the Josephinum. It is a small but beautifully arranged private hospital, and nothing could be more complete than all the arrangements. The nursing is done by Roman Catholic Sisters. The small operation theatre is perfect in all its details, everything in the shape of an appliance being in a room adjoining. His results must be good, for although I am not able to give statistics I learned from Frau Dr. Lehman that "during the last three years she could only recall three cases that ended fatally, of all those operated upon in the klinik." I had the advantage of seeing Professor Klein perform panhysterectomy, with ablation of portion of the vagina, for carcinoma of the uterus, by Wertheim's method. The patient was 41 years of age, married, two pregnancies, her most urgent symptom being hæmorrhage. The feature of the operation was the laying free of the two ureters from the fourth lumbar vertebra to the bladder. These were carefully isolated, and recognised by the peristaltic wave. They were then separated from the uterine arteries, which were

ligatured, and the pan-hysterectomy proceeded with. Careful search was made for any carcinomatous lymph glands, but these were not found anywhere, not even on the posterior pelvic wall. The peritoneum was united by a continuous catgut suture, being closed above the vagina, which was not united, and was drained with iodoform gauze. There was no rise of temperature subsequently, the union was primary, and the patient left the klinik on October 31. The pathological report proved the degeneration to be a malignant adenoma about the size of a lemon.

This certainly was a most complete and perfect operation, performed in a most masterly manner. I am indebted to Frau Dr. Lehman for the complete notes of the case.

ANCIENT GYNÆCOLOGICAL WORKS.

Professor Klein has a most interesting and rare collection of old medical authors, several of which I had the privilege of seeing. Amongst those most interesting to a gynæcologist are the earliest anatomical illustrations (of which he has the first published) of Johannes de Ketham, the first edition, published in 1491, and other editions which contain the first illustrated descriptions of the female internal genital organs, and of the pregnant womb; a work on anthropology by Magnus Hundt, with a description of the womb, after Galen; several editions of the works of Eucarius Roesslin on pregnant women, as well as the works of Andreas Vesalius (1543). The Professor has in hand a descriptive summary of his collection, which will appear before long.

PRAGUE.

Those who have not visited Prague can have no idea of its picturesqueness, or its romantic associations and traditions.

Its Frauen Klinik is splendidly situated, being included in the Krankenhaus, which is placed on elevated ground

overlooking the valley of the Moldau, in which this old historic and most interesting of cities lies. It is one of the most, if not the most, perfectly constructed kliniks I have ever been in, and so complete in its arrangements that I think it may interest readers of this Journal to see the plans of its construction, as in the erection of any modern hospital for women attention to the details shown in them is essential (page 330). As will be seen, it is divided into the ground floor and two storeys, communicating by a lift. On the ground floor there are two wards; on the first four and on the second three, the largest being on the second floor. They are well lighted, warmed and ventilated. On the ground floor is the ambulatorium for out-patients, the museum, the histological laboratory, the general operating and lecture theatre, and that for coeliotomy operations, with the sterilising room adjacent. The bacteriological laboratory is on the first floor, and on both there are bath rooms and sleeping rooms for nurses and also for assistants. What I missed, and which would be essential as an addition, was the Röntgen ray room, that in any modern hospital should be placed in close contiguity to the operating or lecture theatre, as in the kliniks of Professors Zweifel and Trendelenburg at Leipzig.

PROFESSOR SÄNGER.

The illness of Professor Säger, which commenced suddenly in the operating theatre some time since, has unfortunately deprived the klinik of his services, his place being supplied by Dr. Kleinhans, Privat Docent, to whom, with the principal assistant, Dr. Schenk, I was greatly indebted during my stay. Professor Säger's enforced absence is deeply regretted, and in every direction in Germany the warmest sympathy is expressed for the distinguished gynæcologist whose brilliant work and personal qualities had secured for him so eminent and honoured a position.

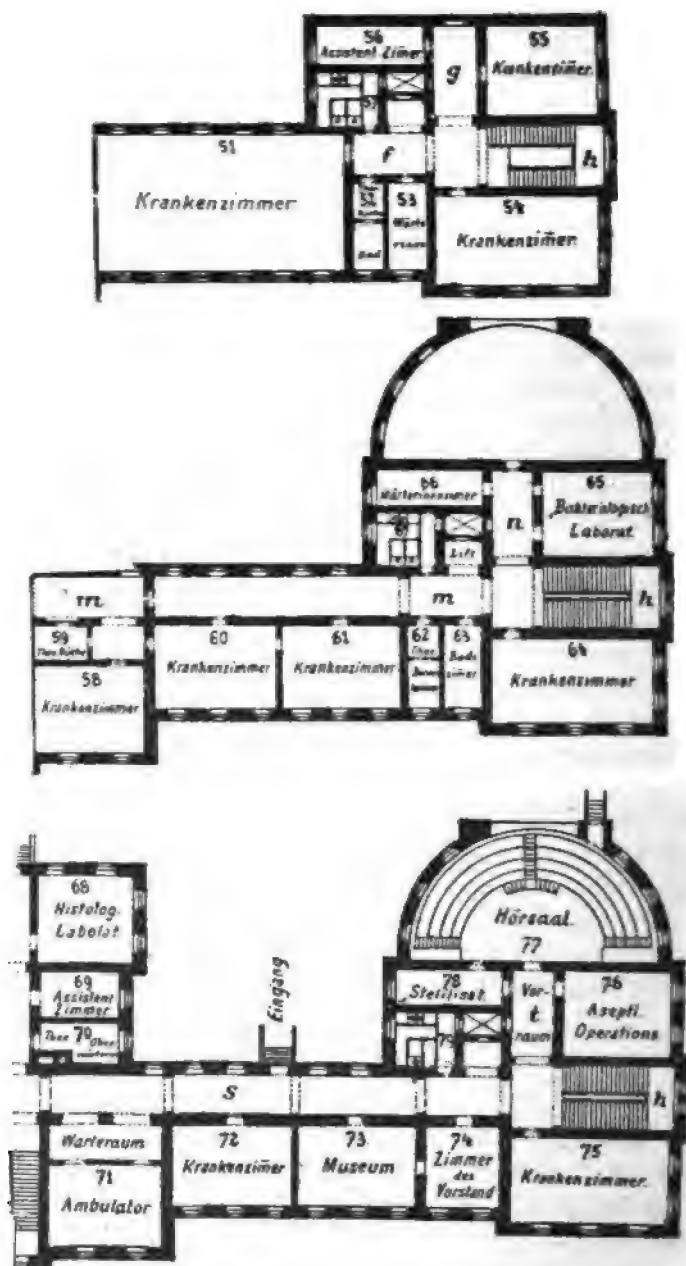


FIG. 1.—Plan of the Prague Frauen Klinik.

ASEPSIS.

The asepsis is very complete. At the time of operation the temperature of the theatre is about 100° F. The anaesthetised patient is prepared nude, the abdomen and thighs being subjected to a thorough washing with aseptic soap, perchloride and alcohol, and finally ether. Closed warm sterilised drawers are drawn over the lower extremities, and then in three divisions the body is covered with sterilised muslin, an aperture being cut in the centre or abdominal piece. I now supplement these with a sterilised flannel jacket which buttons behind and can be readily removed from the patient after operation. The ends of the three coverings are nipped together by light clamps or sponge-holders, the weight of which, as they are suspended from the table, keeps them in position. The woman is thus completely protected by sterilised coverings from the head to the feet. Caps, as in most German kliniks, are worn by the operator and assistants. I saw here most convenient nickel baskets made by Haertel,¹ of Breslau, and which I now use myself. The baskets, which can be taken straight from the steriliser, open by the action of a pedal, and contain the different compresses and dressings required for operation.



FIG. 2.—Pedal Basket for Sterilised Dressings, &c.

COLLÆTIN.

In making the abdominal toilet, over the first dressing a layer of "collætin" is applied to the abdomen, trimmed to fit at the groin. It is a thin zinc plaster, most adhesive,

¹ George Haertel, Albrechtstrasse 42.

on white material, and forms an absolutely impermeable covering. This also I have used in several cases, and find it a most admirable addition to the toilet.

Dr. Kleinhans is a most deliberate and dexterous operator. In a case of retro-deviation with stenosis of the Fallopian tubes and cystic ovaries, he performed Olshausen's operation. The round ligaments were folded on themselves and stitched to the peritoneum in front, the ovaries having been resected and salpingostomy performed. This is his operation of selection during the child-bearing period if there be adnexal complications. He closes the abdomen with the triple layer of suture, using silk cat-gut and silkworm gut.

Elephantiasis of the labium.—(Plate III., Fig. 1.) There are a great number of most interesting specimens in the

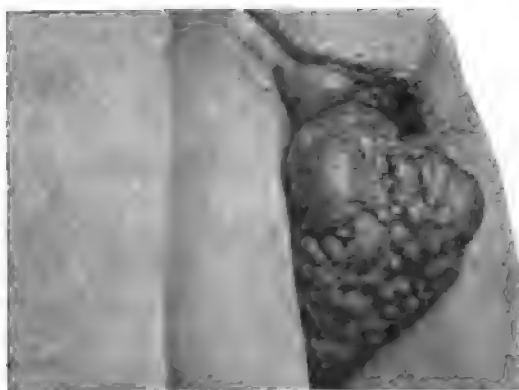


FIG. 3.—Elephantiasis Vulvæ. Ablated. Recovery.

museum, especially of various forms of ectopic gestation. A few of these Dr. Hengge and I photographed for the purpose of this article. One of interest was that of elephantiasis of the right labium, in a patient, aged 42, who had borne three children. Five years before the growth

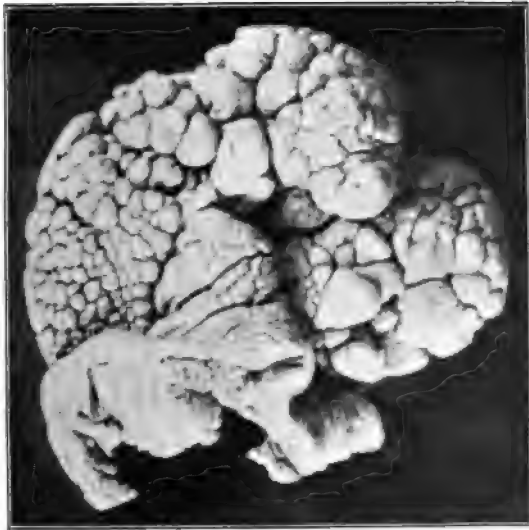


FIG. I.

Elephantiasis Vulva ; Right Labium. (Dr. Kleinhans, Professor Sanger's Klinik, Prague).
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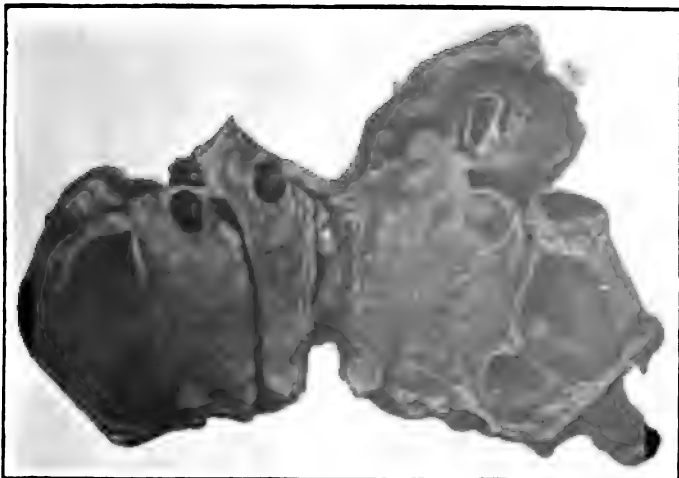


FIG. II.

Adnexal Tumour, (Pyo-Salpinx), Incorporated with the Uterine Wall ; Vaginal Hysterectomy
(Dr. Kleinhans, Professor Sanger's Klinik, Prague). Page 333.



FIG. I.

Uterus affected with Deciduoma Malignum. (Dr. Kleinhans, in Professor Sanger's Klinik, Prague.) Page 333.

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FIG. II.

Uterus with Myoma—Hysterectomy. Dr. Kleinhans, in Professor Sanger's Klinik, Prague.) Page 333.

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was removed she had noticed a wart on the right labium majus, which gradually developed into the large nodular tumour which is shown in the photograph. It finally involved the entire of both labia, growing to the size of a child's head. It was removed, and recovery was perfect.

Our President, Dr. Halliday Croom, has recorded an interesting case shown in this drawing. The measurements under anæsthesia were—antero-posterior, 12 inches ; lateral, 6 inches ; vertical, 6 inches. The tumour was successfully removed, and the cure has been complete.

Case of Pyo-Salpinx Incorporated with the Uterus.—(Plate IV., Fig. 2). This, as may be seen by the photograph, was a very rare form of adnexal tumour. The pyo-salpinx, divided into loculi, was incorporated with the wall of the uterus, forming a complete section across. The patient was aged 38, a primi-para. She had suffered from metritis and pelvic peritonitis. The tumour was removed by pan-hysterectomy, performed through the abdomen. She recovered, with a uretero-vaginal fistula, which necessitated later on extirpation of the left kidney.

Endometritis after Abortion—Deciduoma Malignum.—(Plate IV., Fig. 1). There was also a specimen of considerable interest. The patient was aged 33. Catamenia ceased for four months, when she aborted, after which for seven months a yellow discharge stained with blood continued, associated sometimes with the appearance of what she termed "lumps," followed by severe metrorrhagia. She was then curetted, and decidual cells were discovered by the microscope. For some time the hæmorrhage ceased, but three months after the curettage it became necessary to remove the uterus by pan-hysterectomy on a confirmed diagnosis of deciduoma malignum. This patient recovered.

Myoma with Pregnancy.—(Plate IV., Fig. 2). The photograph shows the tumour with the ovum in the lower segment of the uterus. The patient was 37, a multipara, the last labour having taken place three and a half years previously. Irregularity of the catamenia in the first

instance, followed by severe hæmorrhage, were the principal symptoms. The uterus was removed by supra-vaginal amputation, the tumour being about the size of the foetal head. She made a good recovery.

Tubal Pregnancy.—The other specimen is that taken from a patient aged 29, who had two previous labours, her last occurring five years previously. For six weeks after the last period there was a continuous drain, and pain in the hypogastria and lumbar region. A diagnosis of tubal pregnancy with myoma having been made, pan-hysterectomy was performed, and the uterus, with the adnexa and hæmatocele, was removed.

DRESDEN.

The Frauen Klinik at Dresden is a comparatively old building, forming a rather strong contrast to the one I had just left at Prague. The present operating theatre is an old one, and not up to the standard of a modern installation in many respects.

I went over the entire klinik with Dr. W. H. Vogt (whose attention to me while in Dresden I desire to acknowledge here) and the results in all cases then in it, obstetrical and gynæcological, were very good. There is a splendid Frauen Klinik in the course of completion in connection with the new Krankenhaus, which is being built at the other and more open side of Dresden.

Professor Leopold is an early worker, and a most energetic teacher. Each morning at seven o'clock, before the gynæcological operations take place, he discusses any abnormal obstetric cases that have occurred the previous day, and also after his laparotomies or vaginal operations gives an exposition of the steps of the operation, and the reasons for adopting the particular method, as well as the indications for interference. His four steps of examination of pregnant women are well known.¹

¹ *Archiv für Gynäkologie*, Bd. xlv., Hft. 2. "*Die Leitung der regelmässigen Geburten nur durch äussere Untersuchung*," von Professor Leopold und Dr. Spörlin.



FIG. I.

Interstitial Tubal Pregnancy in Myomatous Uterus—Hysterectomy. (Dr. Kleinhans, in Professor Sängers Klinik, Prague.) Page 334.

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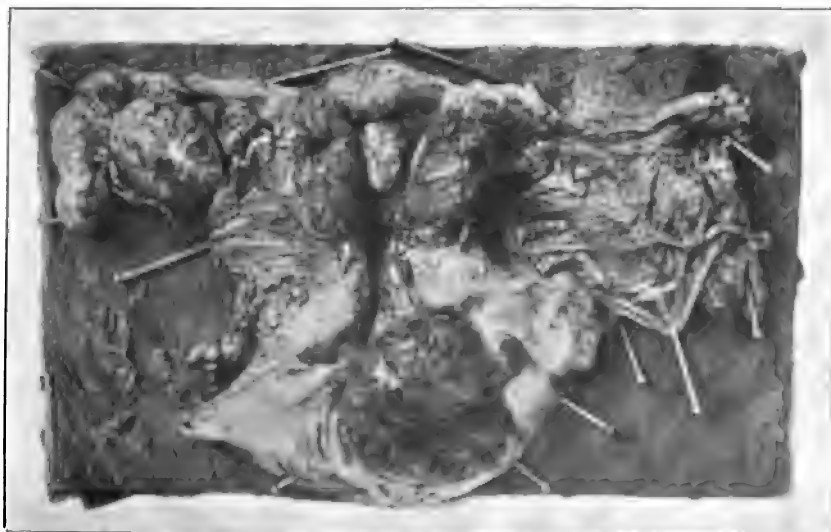


FIG. II.

Carcinomatous Uterus with Adnexa. (Removed by Pan-Hysterectomy—Dr. Kleinhans, in Professor Sängers Klinik, Prague.)

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method to that in which the separate layers are united, and claims that he has no more hernial complications with this than with the other plan. As regards the after treatment of his cases, for the first five days they get bouillon and black coffee, after this, until the eighth day, a thicker soup is given, and they do not get more substantial food until after the latter day. Castor oil is given on the seventh day, and dressings are not changed until the eighth day.

AMPUTATION AND TRANSPLANTATION OF THE BREAST.

In a case of amputation of the breast Professor Leopold, having widely extirpated the affected gland, and the axillary glands at the left side, in a rather corpulent patient, rapidly dissected up the right breast, raising it from its bed and pulling it forcibly to the left side, transplanted it to the raw surface left after the amputation, and fixed it there by sutures. Whenever possible he prefers this method in dealing with a carcinomatous breast.

RAPID DILATATION OF THE CERVIX IN DELIVERY.

Professor Leopold, in a case of contracted pelvis before performing cephalotripsy, used Professor Bossi's instrument for rapid dilatation of the os and the cervix. The patient had an internal conjugate of seven centimetres, and there was a double promontory. In about twenty minutes the dilatation was sufficiently complete to admit of the perforation of the head, and the application of the cephalotribe. The case was a very difficult one, but delivery was successfully completed in some forty minutes from the time the interference began. Everything was conducted with a scrupulous regard to aseptic precautions. In this case the pelvic measurements were : spine to pubes, $22\frac{1}{2}$ cm., crests, 25cm., trochanters, 29 cm., and the external conjugate 18 cm., the pelvis being of the rachitic type.

The nature of the instrument is shown in the drawing, the branches or blades being grooved so as to prevent

slipping in the cervical canal. By the peculiar construction of the instrument, which works on pivots, the screw moves the three branches synchronously. Without entering into the details of the mechanism, it is sufficient to say that when its wheel handle is rotated, it can be opened slowly to 8 centimetres, and there is a pointer which by showing on a quadrant the movement of a pivot, indicates the extent to which the branches are separated. In a note by Dr. Guiseppe Zirolia¹ to the Medical Academy

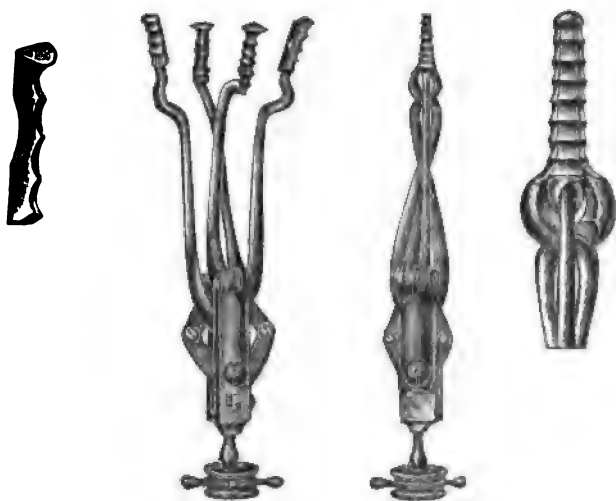


FIG. 5.—The Bossi Dilator.

of Genoa (April 30, 1901), the advantage of the Bossi method is described in a case in which the induction of premature labour by the Krause method was tried. Dilatation to $1\frac{1}{2}$ centimetres was effected after forty-eight hours, and though the process by catheter and tampon was repeated for five days, dilatation beyond 2 centimetres

¹ Professor L. M. Bossi, *Sulla Dilatazione Meccanica Immediata del Collo dell' Utero nel Campo Ostetrico Annali di Ostetricia e Ginecologia*, 1900.

could not be effected. Professor Bossi then applied in his klinik his four-branch dilator, and in nineteen minutes dilatation to 8 centimetres was effected without breaking any membrane, or any lesion occurring in the cervix. "We may say, then," says Dr. Guiseppe Zirolia, "that we have obtained an instrument by means of which, during dilatation, we insure the integrity of the cervix, and the presentation, in the presence of any complication." Dr. G. de Paoli,¹ of the University of Genoa, cites a case of eclampsia in which he commenced to use the Bossi dilator at 5 p.m., and in twenty minutes the membranes were ruptured and a Simpson's forceps applied. In another case of eclampsia the dilator was applied at 8.20 p.m., and at 8.41 a dilatation of 8 centimetres was reached. The membranes were ruptured, and Simpson's forceps applied. Many other cases of a similar nature have been recorded. It is important to remember that there should be thorough narcosis and careful disinfection of the genitalia when this method of dilatation is employed.

In a third case² the os and cervix were so resistant that it was with the greatest difficulty that the closed branches were introduced. Four minutes after their introduction the gradual dilatation was proceeded with, and the child was delivered within five minutes.

It would appear that of the obstetric cases treated in the Dresden Klinik, 25 per cent. have contracted pelvis, and hence the necessity for frequent induction of labour, which is always done by the bougie method. The position of the placenta is determined beforehand. A complete history of every obstetric case is kept, with a record every three hours of the progress of the presenting part, the character of the pains, and the foetal heart tones. No effort is made to expel the placenta for an hour after the delivery of the child, but a midwife is placed in charge for the hour, and

¹ *Archivio di Obstetricia e Ginecologia Anno 8 1901, n. 9.*

² *Ibid.*

she maintains slight compression on the fundus uteri with her hand, reporting if anything abnormal occurs.

Gonorrhœa is also a common complication, some 10 per cent. of those admitted suffering from this affection.

LEIPZIG.

I shall not easily forget my visit to Leipzig, from the kindness and hospitality I received at the hands of Professors Zweifel and Trendelenburg, and the courteous attention paid me by the assistants at the two kliniks.

One misses at Leipzig the art of the Pinatotheks and Glyptothek of Munich, the picture galleries and museums of Dresden, the ancient architecture and the antiquities of Prague, with all the latter's picturesque surroundings and historic associations, but we are recompensed by its marvellous musical genius, the splendid architecture and decorations of its new buildings, with its wonderful "Buchhändlerhaus" and its Museum, with much more that is of interest in this great University town, where Napoleon met one of his most serious and bitter reverses.

Professor Zweifel held last year the distinguished post of rector of Leipzig University, one of the largest in Germany, founded in 1409, attended by 3,500 students of different faculties, and any visitor to his klinik will meet with such a welcome as must make him feel completely at home. The Frauenklinik, a comparatively new building, is the second largest in Germany, the number of obstetrical beds being 100, and of gynæcological 60. The number of women delivered in 1901 in the klinik was 1,500, and the frequency with which Cæsarean section has to be performed may be estimated from the fact that Professor Zweifel has operated 98 times during his attachment to the klinik. In his four assistants, Drs. Füth, Glöckner, Bretschneider, and Zangemeister, he has able lieutenants. There were 180 students attending the klinik when I was in Leipzig. This old Frauenklinik has seen

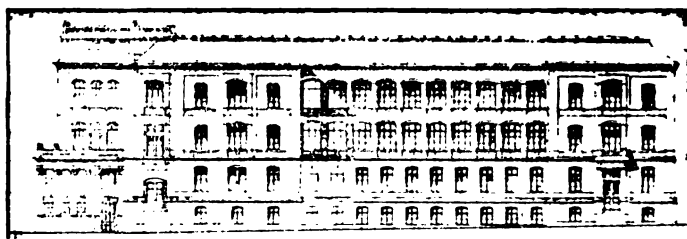
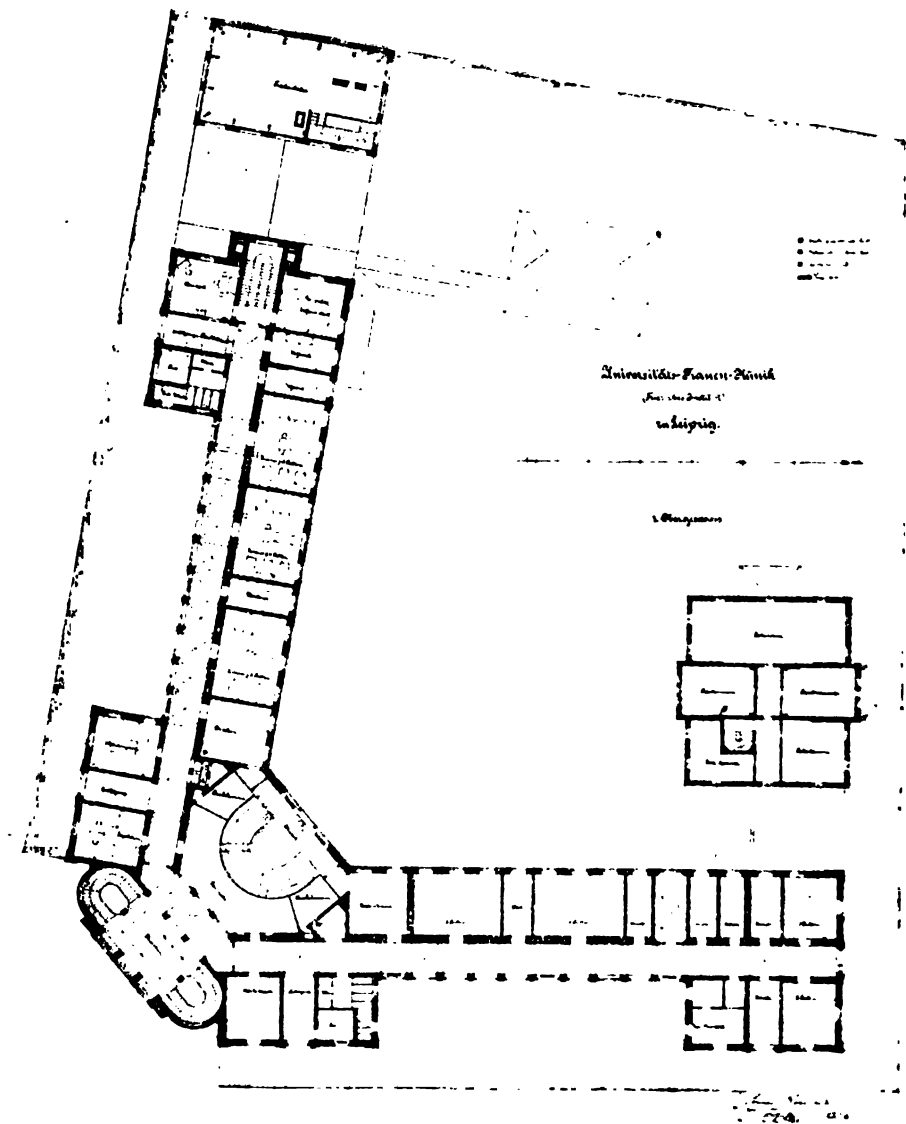


FIG. 6.—Plan of First Floor of Frauenklinik and one side of the Building.

many vicissitudes in location, having begun its first work in 1810. In 1892 the present splendid building was opened. It is somewhat V-shaped, having two wings, with a large central portion containing the lecture-rooms and operating theatres, with a fine staircase, into which open the corridors for the wards.

Its shape and construction may be gathered from the plan of the first storey (page 340). This is reserved exclusively for accouchements, and the second for gynæcological cases. There is a large amphitheatre for lecturing, and on either side of it are rooms for photography and the Röntgen rays, the theatre being provided with a movable shutter for lantern purposes. There is a fine operating theatre provided with tiled walls, and an arrangement for steaming and flushing it out completely with water, while it is beautifully lighted. The patient is disinfected in an adjoining room, where anæsthetisation is carried out. The whole building is heated by hot water pipes, the ventilation in the wards being very complete; the air of the operating theatre is supplied warmed and filtered. Underneath are large kitchens. There is a bacteriological laboratory and museum, with a separate building for disinfection and sterilisation. The whole edifice is fireproof.

As in the other University Frauenkliniks, the State requires the Professor Director to live in the klinik, but provides him with a separate house, which in Professor Zweifel's case is an exceptionally fine one, attached to the main edifice. The Professor gives instruction to students every morning at eight o'clock, and at nine the operations commence. I can only briefly refer to some of the points that struck me in his methods. Asepsis is, as usual in Germany, very complete, the preparation of the patient being very thorough. Professor Zweifel operates sitting at the end of the table, both in abdominal and vaginal coeliotomies, in the same manner as Professor A. Martin, not adopting the Trendelenburg position. I must say, however, that in myomectomies or pan-hysterectomies,

indeed in abdominal cases generally, I think this places the operator at a considerable disadvantage.¹

SUTURES AND LIGATURES.

The Professor is quick and deft of hand. For sutures and ligatures he uses cumol gut and chromicised-cumol gut. The latter is prepared in the following manner: It is wound on a glass plate with ground edges, so as not to cut it. It is next placed in chromic solution for fifteen

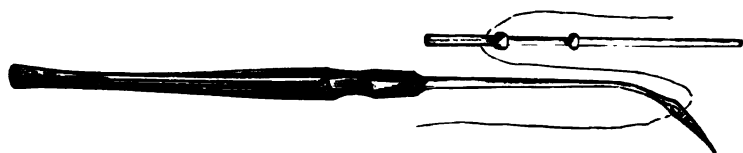


FIG. 7.—Zweifel Needles.

minutes (1 in 1,000), and then washed in water. It is a second time for fifteen minutes placed in the chromic solution, and dried at a temperature of 80° C. It is then made into rolls and subjected to 100° C. This drying must be complete. It is then placed in cumol for an hour and a half, at a temperature of 160° C. It is now put into benzine of petroleum with a sterilised forceps, and the benzine is changed once (after half an hour). It is finally placed in sterilised glasses, and is ready for use. He has a special suture which is known as the "Zweifel suture." It is made with two needles, one handled and curved, the other short and blunt with one end split to hold the suture (fig. 7). There are two principal forms of suture. One, a

¹ The disinfectant in use in the klinik for the hands is the ethylene diamine mercuric citrate, which is preferred to mercuric perchloride by reason of its greater power of penetration and less injurious action on the skin of the hands. It is weaker than perchloride, 3 in 1,000 being equal to 1 in 1,000 of the perchloride. Chemisch Fabrik_auf actien (E. Schering, Berlin).

simple continuous suture, is made as follows : The silk or gut having been fixed in the straight blunt needle (fig. 7) and the curved one threaded from its concave side, the end of the silk with the handle of the needle is secured by the hand.

The concave needle is carried through the two layers of peritoneum (fig. 8, Nos. 1 and 2) and the straight short

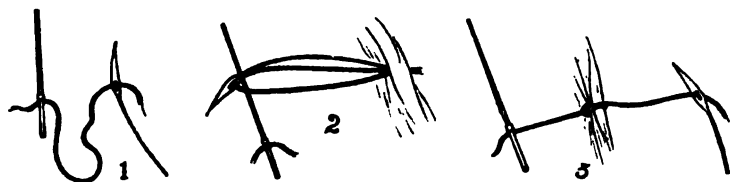


FIG. 8.

needle in the left hand on the other side is passed through the loop that is formed (fig. 8, No. 2). The needle is then withdrawn while the threads are pulled on equally (fig. 8, No. 3). In this way the two surfaces of the peritoneum are joined, and so proceeding up the wound a lateral continuous suture is rapidly made (fig. 9, Nos. 4 and 5). In the second

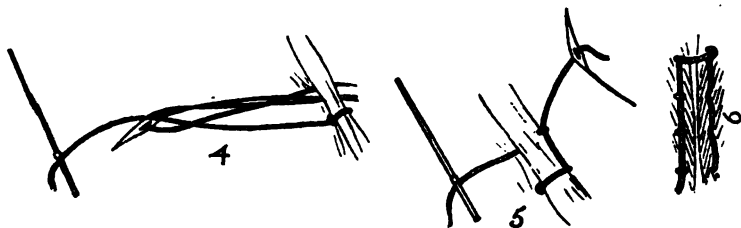


FIG. 9.

kind of suture, the first three steps are the same as in that just described, but after the curved needle has been brought back, and before it pierces the tissue again, the short needle is carried under the thread at that side, and brought to the other side (fig. 10, Nos. 7, 8, 9), and again the steps are the

same as in the first instance. This method is continued, giving a series of locked stitches (fig. 11, Nos. 10 and 11), much on the principle of those made with a sewing machine. A space of a centimetre and a half is left between the stitches. Professor Zweifel uses this latter suture for the skin. He does not use it for the fascia, which he closes with an interrupted suture.

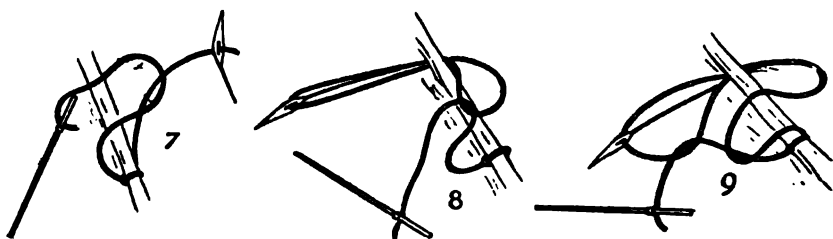


FIG. 10.



FIG. 11.

VAGINAL HYSTERECTOMY AND PAN-HYSTERECTOMY.

Both in vaginal hysterectomy and pan-hysterectomy, and in myomectomy, Professor Zweifel uses a special clamp, the nature of which can be readily understood from the illustration. This clamp is made in two sizes. The smaller he employs as a hæmostatic forceps, using it for temporary control of vessels, its crushing power at the blades having been mathematically proved to be multiplied three times by the mechanism shown in the figures. It certainly is a most perfect compressing forceps, most useful in arresting bleeding from superficial vessels, as in the Alexander-Adams and plastic operations. The larger clamp he uses much after the fashion of Doyen's instru-

ment. It is applied at either side to the broad ligaments, close to the uterus, and from what I saw of its action appears to exert quite sufficient crushing power if left on for a few minutes to completely arrest all bleeding; but the operator does not trust to it alone, using a Paquelin's cautery to the divided surface and resorting to ligatures of chromicised cumol gut. The most characteristic feature of



FIG. 12.—Zweifel's Broad Ligament Clamp and small Hæmostatic Forceps.¹

Professor Zweifel's hysterectomies, whether abdominal or vaginal, are his use of the cautery in addition to the ligature, and the pressure clamp I have described. Certainly his operations are very bloodless, and are performed with a view rather to complete security from bleeding than rapidity of execution. In his vaginal operation he closes the peritoneum and turns out the stumps into the vagina

¹ The drawing of the small forceps is out of proportion as compared with the clamp, that in the text being about half the natural size.

in the same manner as does Professor Leopold. In supra-vaginal hysterectomy I saw him perform, he enucleated the large tumour from its capsule, and then proceeded to secure the round and the broad ligaments. In ligaturing vessels he generally employs a double ligature; in sewing the peritoneum he employs the continuous suture I have already described, and in closing the skin the second variety of the same. In closing the abdominal wound, independently of other sutures, he first passes three or four deep gut sutures through all the structures save the skin, using the needle shown (fig. 13).

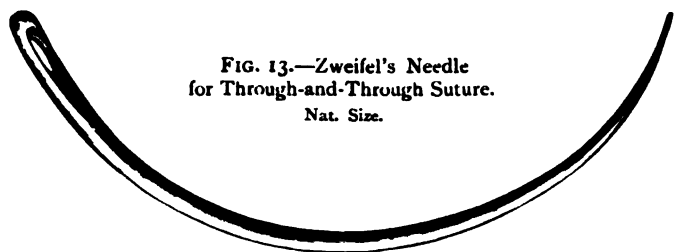


FIG. 13.—Zweifel's Needle
for Through-and-Through Suture.
Nat. Size.

ALEXANDER-ADAMS OPERATION.

In performing the Alexander-Adams operation, having carefully isolated the external abdominal ring, with the external oblique aponeurosis, and separated the round ligament, the anterior wall of the canal is divided for its entire extent, and the internal opening is exposed after division of the processus vaginalis. The round ligament is now well separated, and drawn forwards, and secured by a gut ligature to the oblique aponeurosis. It is then tied, and the divided end is turned up under the oblique muscle. All divided vessels, arterial and venous, are secured. Professor Zweifel lays considerable stress on ligaturing the veins, which anticipates the chance of a vulvar thrombus, or hæmatoma. The wound is closed with catgut, and a small drain is inserted. He resorts to the Alexander-Adams operation in all cases of mobile retro-deviated uterus.

In puerperal peritonitis, and in post-operative peritonitis, ice is applied to the abdomen, and this appears to be a favourite treatment. It is adopted by Professor Schultze, of Jena, where I saw some cases under treatment by this method. The latter surgeon gives stimulants freely in puerperal peritonitis.

A new and convenient - sized ovariectomy trocar of Köberle, which I saw in Leipzig, is worth noticing. The hooks for catching the cyst wall are concealed until required. Its construction can be seen from the drawing.

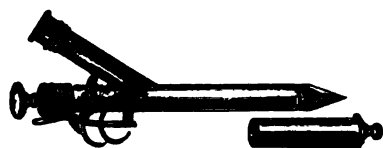


FIG. 14.—Köberle's Ovariectomy Trocar.

KRÖNIG'S AND MENGE'S CLINIK : CELLOIDINZWIRN.

Professors Krönig and Menge work in the Klinik in which Professor Sänger operated before going to Prague. Professor Krönig was unfortunately suffering from a severe accident to his shoulder joint at this time, but I had the pleasure of seeing Professor Menge operating, and here, for the first time, I saw the new non-absorbable "*celloidinzwirn*" used for sutures. It is a very strong white thread of cotton impregnated with celloidin. It has the advantage over silk of cheapness and power of resistance to heat sterilisation. The celloidin increases greatly the strength of the thread.¹ It was first recommended by Dr. T. Braun, and is prepared in exact accordance with his instructions by Schaedel² of Leipzig. It must be boiled or sterilised by steam before use and then kept in perchloride

¹ *München. med. Wochenschrift*, Nos. 15 and 16.

² Alexander Schaedel, Reichstrasse 14, Leipzig.

solution. It can be used both for superficial and deep sutures and ligatures. Not having the elasticity of silk too great a strain must not be put on it in tying.

KRÖNIG CUMOL GUT.

The Krönig cumol gut I have now used in several abdominal operations. It has answered admirably. The process by which it is prepared is that of Professor Krönig, and this is carried out exactly¹ in Dronke's Fabrik in Cologne. This is described fully in the *Münchener medicinischen Wochenschrift*, No. 44, 1901. Save in the instance of the very large thicknesses of gut, which may, in order to soften them, be first dipped in sterilised water or perchloride solution, this gut is used direct from the boxes. It can be had in eight sizes. At the same time, save for the convenience of obtaining it ready to hand, and without the necessity of preparation, I do not think that it possesses any great advantage over the gut that I have been using for five years, namely, that prepared by Martin's method with mercuric perchloride, oil of juniper, and alcohol, by the process which I have already fully described in this Journal. Professor Menge performs the Alexander-Adams operation very much in the same manner as Professor Zweifel. He completely closes the wound, without drainage.

PROFESSOR TRENDELENBURG'S KLINIK.

The most perfectly arranged klinik I have ever been in is that of Professor Trendelenburg at Leipzig. He is not forgetful of the days spent in the Edinburgh School, of which he has a high opinion, associating it as he does with the names of Lister and Cheyne. Owing to his kindness I had a long and interesting demonstration of various radiographic specimens and also of photographs,

¹ It is sterilised and sent out in hermetically sealed boxes ready for use (Dronke's Catgut Handlung Köln a Rh.).

of which he possesses a splendid collection. These were demonstrated by a magnificent new instrument of Zeiss, placed in the centre of the lecture amphitheatre. This is an exceedingly fine lecture room, replete with everything that modern science can suggest, capable of being rapidly darkened by rolling shutters for demonstrative purposes. At either side of it are the photographic and Röntgen ray rooms, and close adjoining is the coeliotomy theatre, while in the large corridor that skirts it behind are the cases for Röntgen and other clinical photographs, and everything necessary for the complete surgical armamentarium. The building is a comparatively new one, and it is not to be wondered that its construction is one of which the Leipzig School is justly proud. Professor Trendelenburg attends in the klinik every morning at 9 o'clock, demonstrates, holds clinical examinations, and operates before his class. His method of teaching is exhaustive and most complete in the thoroughness with which he goes through each case. I saw him perform one most interesting transplantation operation in a woman of some 70 years of age; there was a large angioma quite filling Scarpa's space. This was rapidly dissected up, and the whole of the fascia removed, with any glands as far as the femoral ring. A large flap of skin with a fairly broad base was then transplanted from the abdomen on to the raw surface, and fixed there. The abdominal surface was afterwards covered by large Tiersch grafts. I have since learned from Professor Trendelenburg that the patient left the hospital well, but that there has been a return of the growth. In abdominal operations he still uses his original table, which revolves on a central axis and is readily placed at any desired angle.

HALLE.

The Frauen Klinik at Halle is another fine building, and admirably situated in an elevated portion of the town, close

to the Krankenhaus. I went round it with Professor Bumm, who gave me every information as to the nature of the cases then in the hospital, and the results of the operations. The Professor is peculiarly courteous and affable, and spared no pains to afford every information on any matter which arose during my visits to the klinik.

IDEAL ASEPSIS.

Were I asked to say to which klinik I have at any time visited I would accord the palm for the most perfect asepsis, I think that I should reply to that of the Frauen Klinik at Halle. A skilled and experienced assistant, thoroughly versed in the preparation of the patient, has entire charge of the conduct of the aseptic details. These are carried out in the adjoining room, at a temperature of 100° degrees. The entire abdomen, genitals and thighs are freely lathered and washed over several times with antiseptic soap, and when the abdomen has been finally prepared, the woman is covered much after the manner in vogue at Prague, with the exception of the operative area, with aseptic dressings. Rubber or cotton gloves are used in the preparation, and the former are also employed by the operator and assistant, during the entire operation. Being thus prepared, the patient is rolled into the laparotomy room.

Professor Bumm uses in the abdominal toilet the triple suture, that for the skin being made with bronze aluminium wire. This wire is made in several sizes, and can be used for interrupted or continuous suture. I have now used it on several occasions for skin suture, either continuous or interrupted, and have found it admirable. It causes no irritation, and need not be removed from twelve to fourteen days.

ABDOMINAL AND VAGINAL HYSTERECTOMY.

Of several operations I saw performed at the klinik, the few I wish to refer to are abdominal and vagina pan-

hysterectomy. Professor Bumm operates only by total hysterectomy, and does not perform the supra-vaginal operation. As I saw it completed at his hands, I might say it was practically bloodless. The steps were as follows:—

In the first place there was thorough disinfection of the vagina, all the folds being rubbed with sublimate solution. (In some instances the vagina is incised posteriorly, and Douglas' pouch opened, the bladder being pushed aside,

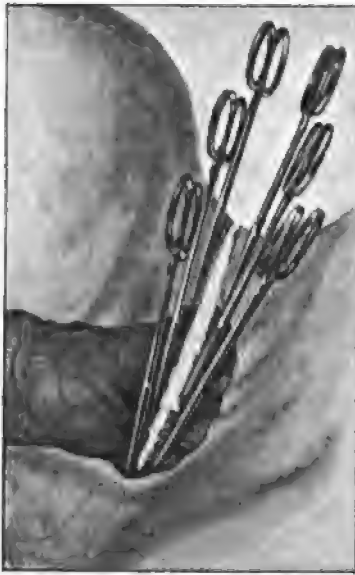


FIG. 15.—Six Pairs of Kocher's Forceps applied to the divided Broad Ligament (Bumm).

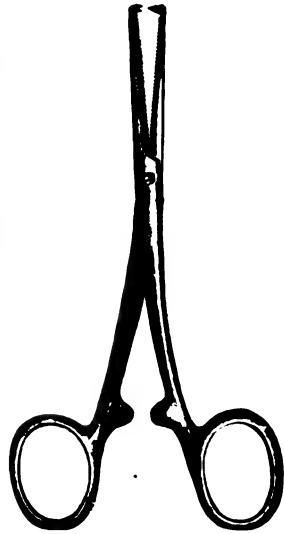


FIG. 16 —Kocher's Forceps.

and any bleeding vessels ligatured by catgut; or, a sound is passed into the posterior fornix of the vagina, and maintained there by a gauze tampon.)

The development of the myoma being homocentric, the tube and ovary of the left side were drawn towards the uterus, and two Kocher's forceps were applied, and the ligament divided between the two; the same step was taken

at the opposite side. Only a few minutes were thus occupied. Two other pairs of forceps were applied, these reaching to the superior margin of the bladder, and the peritoneum situated between these divided obliquely towards the uterus. The advancing finger having pushed the ureter aside, the uterine artery was freed, and in turn clamped with forceps. Thus at either side there were six pairs of Kocher's forceps, the uterus now being attached only to the fornix vagina. A finger of an assistant was next passed into the vagina, and the anterior fornix was divided. (Should Douglas' pouch have been opened, this is done through the aperture.)

A fourth pair of clamps took in the lateral parts of the vagina and folds of Douglas, and the uterus was now completely removed, with the lateral clamps attached to it. The wound was then sewn over, and, following this step, ligaturing of the broad ligaments was completed at either side from above down. The first clamp being removed, the ligament was compressed between the thumb and fourth finger; ligation was made with thin catgut. The second pair, containing the round ligament, were then removed, and the ligatures applied; next, those used for closing the arteries and veins, and lastly those holding the vagina and the folds of Douglas. Some twenty minutes were occupied from the time of the making of the abdominal incision to the removal of the uterus, prior to the application of the ligatures. Lastly, the obliquely running wound in the pelvic peritoneum was closed by a continuous suture from its superior angle across to that of the other side. The vagina was tamponned loosely with gauze. The abdomen was closed with a triple layer of suture, that of the skin being made with bronze aluminium wire.

Vaginal Hysterectomy.—Professor Bumm operates on interstitial and submucous myomas, or sub-serous (when developed in the pouch of Douglas), by vaginal hysterectomy, assuming that they are of suitable size and sufficiently accessible. The favourable conditions are a



Fine section of uterus, hardened with picric acid, alcohol and colloidin—and cut with a large microtome—patient aged 30, carcinomatous uterus in 3rd month of pregnancy, showing decidua, and amniotic sac ruptured. Stained with carmine. Vaginal Hysterectomy; Recovery.

Section by Dr. URFOV, in Prof. Bumm's Klinik—Halle.

wide vagina, the cervix being easily drawn down, and the inferior pole of the myoma readily reached. The preliminary steps of incision of the cervix, freeing of the bladder, and opening up of the pouch of Douglas having been completed, an incision is made from the seat of the fibroma, whether in the anterior or posterior wall of the cervix, to the inferior pole of the tumour in the middle line. Two strong clamp forceps are then applied to the margins of the incision; the fibroma is next shelled out with the finger, and the freed portion is drawn down and the enucleation continued until the whole tumour is removed. The uterus thus diminished in size is without any difficulty dislodged and removed. There may be some delay in the enucleation, but as a rule there is none. Should the complete removal of the tumour by the vagina prove impossible, the mixed operation is completed and abdominal coeliotomy performed. After the uterus is removed, silk or thick gut is employed for ligaturing the broad ligaments. His more recent operation consists of division of the cervix in the middle line and morcellement, exposure of the uterus, the securing of the broad ligaments by small clamps and their severance, with removal of the uterus by the application of the ligatures from above down on either side (lateral to the clamps) four to six ligatures being required. All the ligature ends are cut short, and the peritoneum of the bladder and Douglas are drawn to the angle of the wound and sewn there, while the peritoneum is closed from one side to the other, and the oblique wound in the vagina is also closed by a continuous suture.

LARGE POST-OPERATIVE ABDOMINAL HERNIA.

Arising out of a discussion on a case of large post-operative hernia brought before the Gynæcological Society by me, Prof. Bumm went into the question of closure of large abdominal hernia. He considers it a matter of in-

difference whether the incision be made through the linea alba or the muscle. The peritoneum is sutured separately,

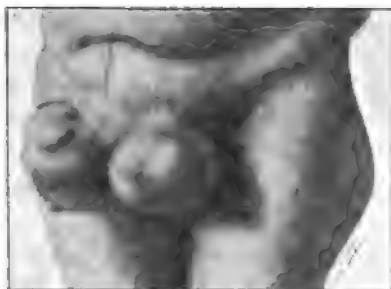


FIG. 17.—Large Double Post-Operative Hernia (Bumm).

and catgut is used for the muscles, continuous suture being employed in both instances. Silkworm gut is chosen for the fascia or the linea alba, the great point being careful adjustment of the fascia. Bronze aluminium wire is used for the skin, thus avoiding any interference of the wound for three weeks.

Free mobility of the fascial margins has to be obtained, with complete separation of the rectus sheath from the muscle. He divides the outer margin of the rectus muscle so as to relieve the tension in bringing the fascial margins together. He lays special stress on flexion of the trunk while suturing the fascial margins in a longitudinal direction. Referring to a case in which the apertures were large enough to take in the fist (the sequence of a hysterectomy completed by the extra-peritoneal method, and the suppuration of the abdominal wall after laparotomy), the sac was incised, and the margins of the fascia brought together with the greatest difficulty. After a year the patient returned with a protrusion, the fascia being greatly stretched, so much so that it was not possible to draw the margins together. She was prepared for a second operation, and the hernial sac was opened and removed. The operation was performed with the patient in a half-sitting posture, the margins of the fascia being thus approximated. It was then sutured, and complete healing followed. The important point was, *taking advantage of the flexed position of the body* in order to relax the fascial margins in these cases of large apertures.

I may here mention that in the case of the patient

operated upon by me, I have learned recently that the cure has been most complete, and that she is perfectly well. In another case in which there was a hernial protrusion, congenital in its origin, extending from the external abdominal ring upwards and outwards for some six inches, I closed the hernia, having opened the sac and returned the bowel by drawing the rectus muscle with the sheath well outwards, and anchoring it to Poupart and the aponeurosis of the external oblique by mattress sutures in the manner described by Kelly. The division in the weakened portion of the abdominal wall was closed in the same manner, some six mattress sutures of silver wire being buried, and silkworm gut used for the skin. This was some years ago, and the patient has never had any trouble since the operation. I mention the case as there appears to have been a doubt on the part of some Fellows who were present at a meeting of our Society, in October, as to the prudence of using so much buried silver wire, but the instances are too numerous to require mentioning in which buried silver sutures answer admirably, and are attended with no injurious consequences.

PREGNANCY WITH CARCINOMA.

I am indebted to Professor Bumm for the interesting pathological section shown in the plate. The case was that of a woman suffering from commencing carcinoma of the cervix, with pregnancy. Vaginal hysterectomy was performed. There has been complete recovery. The uterus was preserved in picric acid with alcohol, and then completely imbedded in colloidin, the section being made with a large microtome.

JENA.

Professor Schultze's Klinik at Jena is an old one, containing 27 beds for obstetric, and 44 for gynæcological cases, with 40 for the staff and students. Notwithstanding

the disadvantages of a not "up-to-date" hospital, evidence of the work I saw in going round with Professor Schultze showed that it was good. I saw all the gynæcological cases then in the wards, the beds of which were full. There were a number of cœliotomy cases recovering. The Professor takes a pride in the excellence of his celluloid rings, which he rapidly converts into his figure-of-eight pessary for retroversion. They certainly are the lightest and best celluloid rings I have ever seen, and do not contain any wire. He uses two kinds of spoon forceps for the removal of small intra-uterine adenoma or fibro-myomata. He considers that these small growths are much more frequently the cause of menorrhagia and endometritic discharges than is generally supposed. These forceps are used after previous full and carefully antiseptic dilatation of the uterine canal. Practically, they cut or punch out the growth, and are, he maintains, much more efficient than curettage. He has also devised an ingenious intra-uterine irrigating catheter. It is contrived so that the walls of the uterine canal are dilated when the catheter is in use, thus providing for free reflux of the fluid.

Professor Schultze, in performing abdominal cœliotomy, uses both clamp and ligature, and this applies also to vaginal cœliotomy, allowing the clamps to remain when necessary. He gives the preference to enucleation of a myoma whenever possible, and prefers the supravaginal to the panhysterectomy method. Silkworm gut is used through the whole thickness of the abdominal parietes enclosing the wound, as in the Zweifel method, the ends being left free. A continuous catgut suture closes the peritoneum, the fascia is sutured separately, and now the through-and-through silkworm gut sutures are tied and some superficial ones of the same material passed between them. He does not remove the silkworm gut sutures until the third week.

In the Obstetric wards I found eclampsia was treated by the induction of free diaphoresis, warm baths, packs, and

injections of chloral through the rectum.¹ In some extreme instances Cæsarean section is performed. In puerperal fever he commences by thorough disinfection of the uterus by free irrigation with lysol or an alcoholic solution of weak perchloride. In some few cases panhysterectomy is resorted to.

Our Honorary Fellow well deserves the compliment paid him by our Society in electing him to one of the few vacancies at its disposal in recognition of the work he has done in the elucidation of the pathology and treatment of uterine deviations.

¹ See case of albuminuric eclampsia successfully treated by subcutaneous injection of pilocarpine, *London Obstetrical Society's Transactions*, vol. xxxix., p. 12 ; *B.M.J.*, 1897, i., p. 146. [Author.]

NEW FELLOWS ELECTED.

The following gentlemen were balloted for and elected Fellows of the British Gynæcological Society at the Meetings held on the dates immediately preceding their names :—

November 14, 1901.

Claude St. Aubyn-Farrer, L.R.C.P., L.R.C.S.Edin.,
L.F.P. & S.Glasgow.

Edward James Ambrose Haynes, F.R.C.S.Irel.

James Edward King, M.D. University of Buffalo,
U.S.A.

December 12, 1901.

Daniel Elie Anderson, M.D. Paris, M.B., B.A., B.Sc.
Lond., M.R.C.S. & L.R.C.P.

January 9, 1902.

William McDowell, M.D. Cooper Medical College
U.S.A.

REVIEWS.

A SHORT PRACTICE OF MIDWIFERY, embodying the treatment adopted in the Rotunda Hospital, Dublin. By HENRY JELLETT, M.D., B.A.O., F.R.C.P.I., &c., &c., Ex-Assistant Master, Rotunda Hospital; Examiner in Midwifery and Gynæcology, Dublin University; Additional Examiner in Midwifery, Royal College of Physicians, Ireland; with a Preface by W. J. SMYLY, M.D. F.R.C.P.I., late Master of the Rotunda Hospital. Third Edition, revised and enlarged; with 124 Illustrations, and an Appendix containing the Statistics of the Hospital for the last eleven years. Crown 8vo, pp. xxvi. and 534. London: J. and A. Churchill, 1901. Price 8s. 6d.

We can heartily recommend this book to every one, student or practitioner, who needs a manual. When, some five years ago, we reviewed the first edition, we expressed a hope that Dr. Jellett would in the future enlarge his work and make it still more worthy of the renowned Hospital, the practice of which it describes. This he has now done, to the great improvement of the book, by the addition of several new chapters and the amplification of others; many new illustrations have been furnished for the clearer elucidation of the text and many of the original ones redrawn; moreover, the statistics of the Rotunda Hospital have been continued up to 1900, and enlarged by a table showing the infant mortality in that institution during the last five years. We notice, comparing the last four years included in the tables in the First Edition with the additional four now given, that the annual

number of labours and of complications has considerably increased, that there have been fewer deaths but more morbidity, and that version has been less and the use of forceps more frequently resorted to—forceps as often as once in every four cases. The exceptionally low mortality of 0·06 per cent. of the year 1895-6 has hardly been approached, but the average for the four years was only 0·38 per cent. ; the morbidity (temperature above 100·8°) was about one in thirteen. The number of cases of eclampsia was only nine ; it will be remembered that Dr. Smyly was one of the first to support Veit's preference for the treatment of this disastrous complication of childbirth ; Dr. Jellett gives due prominence in this edition to the good effects of saline infusions as advocated by Dr. Jardine, and to the relief to the right heart and pulmonary circulation afforded in plethoric subjects by venesection.

It is much easier to compile a large book on any branch of medicine than to prepare a clear and yet concise exposition of the subject, treating all important points with due but no disproportionate attention, and overlooking nothing material ; this we think Dr. Jellett has done, and have no doubt that the present edition of his "Short Practice" will command a circulation even larger than the preceding ones.

MENSTRUATION AND ITS DISORDERS. By ARTHUR E. GILES, M.D., B.Sc., F.R.C.S., M.R.C.P., &c., Surgeon to Out-Patients, Chelsea Hospital for Women, &c. Crown 8vo. Pp. viii. and 100. London : Baillière, Tindall, and Cox. 1901. Price 2s. 6d.

This is No. 5 of "The Medical Monograph" series, which, edited by Dr. David Walsh, gives brief sketches of subjects of everyday interest to students and practitioners. In it the author has been most successful in presenting a concise and practical exposition of normal menstruation, and of the various disorders to which it is liable, and has throughout discussed these disorders as symptoms of

morbid conditions requiring investigation, and not as separate diseases, for the cure of which an empirical therapeutic formula suffices. About one-third of the book is devoted to the physiology of menstruation, as to which he accepts Heape's contention that the process in women, and in monkeys, is homologous with the pro-œstrum in the lower mammalia. He defines the process as a periodic uterine preparation for pregnancy, and says that while in the human subject, in whom, as placentation is most complex, and sexual inclination and reproductive capacity practically never in abeyance, it is natural that the uterine changes should be most developed, and the menstrual cycle recur as frequently as possible for its due completion, we have yet to discover the causes of rhythmical uterine activity, and the relations between the uterine and ovarian changes, and between the genital organs and the central nervous system.

In the discussion of the clinical characters of menstruation, the hygiene of puberty and the diagnostic importance of menorrhagia and metrorrhagia, Dr. Giles has been particularly happy; but the whole essay is so excellent in style and matter that we look forward with pleasure to the appearance of the larger work he promises on the same subject. The printing is good; the correction for the press has evidently been well done.

BEITRÄGE ZUR GYNAEKOLOGIE UND GEBURTSHILFE.

Festschrift Professor Dr. LEOPOLD LANDAU, gelegentlich seines 25 jährigen Docentenjubiläums gewidmet, von ehemaligen und jetzigen Assistenten und Schülern. Mit einem Bildniss des Jubilars, 4 lithographirten, Tafeln, und 47 Abbildungen im Text. Royal 8vo. Pp. vi. and 706. Berlin: Verlag von August Hirschwald. 1901.

According to the graceful custom of our German colleagues, when Professor Leopold Landau completed the twenty-fifth year since he was made a Privat-Dozent, a

series of articles were dedicated to his honour by his past and present pupils and assistants. These articles appeared as a Festschrift in the sixty-fourth and sixty-fifth volumes of the *Archiv für Gynaekologie*, and abstracts of most of them will be found in our "Summary." In their collected form they make a large and handsome volume, valuable for the articles themselves and as a memento of the distinguished Professor, an excellent portrait of whom faces the title. The contributors include Drs. Theodore Landau, Abel, Falk, Josephson, Fränkel, Gabriel, Thumin, Sittner, Pick, Orgler, Weinreb, and Davidsohn.

OUTLINES OF GYNÆCOLOGICAL PATHOLOGY AND MORBID ANATOMY. By C. HUBERT ROBERTS, M.D.Lond., F.R.C.S., M.R.C.P., Physician to the Samaritan Free Hospital for Women; Physician to Out-Patients, Queen Charlotte's Lying-in Hospital; late Demonstrator of Midwifery and Diseases of Women, St. Bartholomew's Hospital. With 151 illustrations, mostly original. Royal 8vo. Pp. xxii. and 332. London: J. and A. Churchill, 1901.

This is a fine book, well printed, well bound, exceedingly well illustrated, and on the whole is not only what it professes to be, a good and fairly sound manual of gynæcological pathology, but something more than this, for the author occasionally strays rather widely into other provinces.

The writing is very unequal. In some chapters, as those on endometritis, ovarian tumours, cancer of the uterus, and micro-organisms, the author shows good personal knowledge of his subject, and the writing becomes of much greater value. In some chapters, again, the letterpress is very largely a compilation from other works, and it cannot be said that Dr. Roberts always shows the best judgment or discrimination in dealing with the material at his disposal.

On several disputed questions the author freely adopts opinions and statements of an extreme or partisan character from the writings of his predecessors. Many of these

teachers had to combat special misconceptions and abuses, and when they wrote or spoke, did so forcibly, and sometimes extravagantly, in order to make sufficient impress on those they taught. Their method of teaching—perfectly allowable at the time and under the circumstances of clinical instruction—appears to us to be out of place in a work on pathology, and when the author reproduces their statements of opinion, these sometimes lead him either into contradictions or difficulties, which tend to spoil the book and make some of its teachings vague, indecisive, and hazy.

On p. 102 we read, "The perineum plays no part in supporting the uterus," and in the next paragraph we read, "The essential cause of descent is a weakening of the supports of the uterus, these supports being the components of the pelvic floor."

Is the perineum, then—and especially the transverse muscle fibres joining the levatores in front of the rectum—no component of the pelvic floor?

Somewhat similarly, when writing on cancer of the uterus, the author says (p. 233), "Terms which have long been used, such as 'mushroom-shaped variety' and 'cauliflower excrescence,' should be given up; they are confusing, and mean nothing," and quoting Dr. Herman, "It matters nothing what vegetable a cancer happens to resemble." This, however, is immediately followed by an apparently irreconcilable sentence, "There is a true cauliflower excrescence; it is a form of cancer of the vaginal portion, and consists of a soft, fringed growth having a stalk; it is very rare."

These, perhaps, are minor slips, regarding which it is quite easy to be hypercritical, but in dealing with more important matters the same method is often used, and the same difficulties are invited.

In his chapter on uterine displacements, the author dismisses the subject of backward displacement with a few sentences of his own, and a long, well-known quotation from the late Dr. Matthews Duncan, in which every effort is made to minimise the importance of the dislocation. The general

effect of this, especially on those who do not remember or understand the merits of a bygone controversy, is undoubtedly to make the reader regard the question as of little or no importance, and the whole subject as one which may be safely disregarded or ignored. A few pages later, however, we find the author constrained to write in no measured terms on the possible awful consequences of a pregnant retroversion (p. 108); and again, in the chapter on diseases of the ovaries (p. 198), he recognises prolapse of the ovaries as sometimes caused by retroflexion of the uterus. Is, then, the early abnormal position of an organ possibly leading on to such grave pathological changes, an altogether trivial thing, and one of no importance? Is not a *via media* more philosophical, more consistent, and above all, a clearer position to maintain?

It is in this section, on gravid retroversion, that one of the chief mistakes of the book is to be met with. On p. 108 the author writes, "There is possibly nothing so easy to diagnose." To those of us who know, and have pointed out how exactly a gravid retroversion can be simulated by an extrauterine pregnancy in the pouch of Douglas, this remark must be recognised as singularly unfortunate, for any attempt at replacement (?) of the tumour when this is extrauterine, may have an almost immediately fatal result.

In the chapters on pelvic inflammation, gonorrhœa, and diseases of the Fallopian tubes, the author again appears to take up a difficult and a rather dangerous position. He does not attempt any very clear discrimination between the several diseases causing pelvic peritonitis; he writes occasionally of "perimetritis" as a distinct disease, like the old authors of twenty years ago, but unlike these, adopts a rather light and airy estimate of its importance, that may easily lead an inexperienced practitioner into serious error. On p. 52 we read, "The prognosis of perimetritis is very good indeed, its mortality is low, removal of the appendages is rarely needed, and the limits of the justifiability of operation rare as an uncomplicated disease." The exact meaning of

this last sentence is difficult to say, but later on, under the head of chronic salpingitis, we find the following: "Such cases are better from time to time; some recur; some in spite of the pelvic condition have no symptoms; some, on the other hand, get worse; their life becomes a burden from constant pain, and they are unable to follow the ordinary conditions of life. Many of these have never been properly treated, and a rest in hospital may cure them, or at least they are so much improved that they do not trouble further in the matter. Many of such cases doubtless depend on chronic inflammation of the tubes; some are evident, some are not, and *the disease is perimetritis*; but perimetritis does not kill in itself, though the disease causing the perimetritis may do so, such as ovarian tumours or fibroids."

Such teaching appears to us to be mischievous, for if a man is content to write and think of perimetritis as a disease in itself and not a grave one, including in this cases where pain is constant and life a burden, he will easily dismiss pyosalpinx and early ectopic gestation under this comprehensive formula, and sometimes lose the greatest opportunity his profession can afford him, that of definitely saving life.

It is quite possible that in making this criticism we are attacking some of Dr. Roberts' teachers, but the time has gone by when gynæcology can be content with confusing several different diseases under one heading. Every day we know more of the diseases causing pelvic peritonitis, and are able to distinguish their special features. Gonorrhœa is the chief cause of the relapsing form; it chiefly affects the tubes, and secondarily the ovaries. Sepsis from without affects the uterus itself, the peritoneum through the uterus, and secondarily the broad ligaments and ovaries; often the tubes escape. Sepsis from the appendix is apt to affect the right ovary and tube. Tubercular disease often begins in the tubes, but is not necessarily confined to any structure. The specimen shown in fig. 30 is by no means very typical of this condition, and one important omission from the book is that of any good illustration or description showing the

consequences of infantile tuberculosis of the tubes. The consequent sectional obliterations of the tube are an important and distinguishing feature, which demands recognition. (These are well shown in fig. 76 of Bland Sutton and Giles' "Diseases of Women.") A few cases of pelvic peritonitis in women cannot be accounted for either by external or intestinal sepsis, by gonorrhœa, or by tubercle. These are occasionally met with in cases of myoma and in so-called "chronic ovaritis." What we look for from modern gynæcological pathology is a more thorough investigation into the etiology of these cases, so that we may complete our classification. We want, too, a more thorough bacteriological investigation of the different kinds of peritonitis following operation-sepsis, so that we may find out if any special symptoms are associated with special infections.

Another matter requiring more elucidation is the exact nature of the diseases which have been grouped under the name of urethral caruncle. These are not all alike, and need better differentiation. If Dr. Roberts will work at some of these points and give us real pathological light and leading, he will, for the present, do more good than by straying into by-paths of clinical history and diagnosis.

The chapter on extrauterine pregnancy is a very good *résumé* of this subject, but in the classification of intra-peritoneal hæmatocele, taken from Mr. Taylor, the author quite omits the "encapsulated" or "solitary" variety which was first described by him at the British Gynæcological Society in 1894. This is the more remarkable, because what appears to be a very interesting example of this condition is depicted in fig. 43, in which, however, the sac of the hæmatocele, instead of surrounding the fimbriated end of the tube, is attached to one side only of its outer or peritoneal surface. If, in the recent state, the sac had been gently detached, would not some trace have been found here of a linear rupture of the tube?

In another edition it would probably be wise, under diseases of the vulva, to insert some notice of labial abscess

due to ano-vulvar fistula (the French "stercoro-vulvaire"), and under hæmatometra due to atresia, to state (as Mr. C. Martin has recently shown) that the tubes in such cases are sometimes distended with pus instead of blood. In the chapter on Uterine Fibroids, also, some place should be found for a detailed description of the various forms of peritoneal displacement which may be caused by these tumours.

Many, if not all, of Dr. Roberts' illustrations are extremely well done. They show a wealth of care and power of artistic expression which are worthy of the very highest praise. Even the common and rough diagram of another writer (as in fig. 56), after passing through the hands of our author, begins to show some traces of comeliness. With so much to praise artistically, it may have been ungracious to criticise the book itself so freely. The author may derive some consolation from our recognition of the fact that his merits are his own, while his faults are very largely those of other people.

J. W. T.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A practical exposition of the methods other than drug giving, useful in the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D. Vols. iii. and iv., Climatology, Health Resorts, Mineral Springs, by F. PARKES WEBER, M.A., M.D., F.R.C.P.Lond., Physician to the German Hospital, Dalston; Assistant Physician North London Hospital for Consumption; Author of "The Mineral Waters and Health Resorts of Europe"; with the collaboration for America of GUY HINS DAL, A.M., M.D., Secretary of the American Climatological Association, &c. In two books. Book 1, Principles of Climatology, Ocean Voyages, Mediterranean, European and British Health Resorts. Book 2, Health Resorts of Africa, Asia, Australasia, and America. Special Therapeutics. Illustrated with maps. London: Rebman, Limited.

Book 1 is divided into two parts, and it is the first of these which is the most interesting portion of the two books. It deals with the physics, physiology, and general therapeutics of climate. All the factors that determine the climate of any particular region are clearly discussed, such as the distance from the equator, the elevation above the sea-level, the distance from and the relation to bodies of water, the nature of the surroundings—whether plains, deserts, high mountains, hills, or forests—the prevailing winds, and the nature of the soil. In this part, too, are most instructive maps, showing at a glance the mean annual isotherms, the mean annual direction of the ocean currents, and the mean annual temperature of the different parts of the earth's surface.

The second part of Book 1 is devoted to a description of various ocean voyages, and of the Mediterranean, European and British health resorts.

African, Asiatic and American health resorts are dealt with in Book 2.

There is a mine of information in these books, by reference to which great help may be obtained whenever any difficulty arises as to the most suitable place to send one's patients to. We are unable to judge of the description of the American resorts; we can only say that if they are as well done as those of places we know well, the book as a whole is an excellent one, and can be strongly recommended.

We are reluctantly compelled by want of space to hold over Reviews of several other works recently received.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS. MAY, 1901.

Opinions as to pathology or treatment expressed in the following abstracts are not necessarily endorsed by the editors or their collaborators. Any Fellows of the Society who may be willing to give the editor-in-chief regular assistance in the preparation of this summary are requested to communicate with him. He will be greatly obliged by having his attention drawn to any important work published at home or abroad; particularly so by receiving condensed abstracts of such work from the authors themselves.

THE USE OF THE SPRAY IN THE LOCAL TREATMENT OF GYNÆCOLOGICAL DISEASES.

WOOD (*Amer. Jour. Obst.*, March, 1901) uses a spray derived from compressed air under a pressure of thirty pounds, and claims that in leucorrhœa and specific discharges he thus obtains good results in half the time required by ordinary methods. In a case of leucorrhœa, whether simple or specific in origin, the parts are first thoroughly sprayed through a fenestrated speculum with a 50 per cent. solution of peroxide of hydrogen, which, after the excess of fluid is wiped away, will leave them perfectly clean and blanched. An antiseptic spray is then used as above, containing boric acid, thymol, eucalyptol, &c. If there be a white-of-egg discharge lodged in and hanging from the cervix, an alkaline spray will quickly dissolve it. If the catarrh be specific, there is further spraying with a 5 per cent. solution of protargol. He says, "with the pressure at my command the spray will, unless the os is very small, penetrate the entire cervical tract." A wool tampon, medicated with a 10 per cent. glycerine solution of ichthyol, is afterwards applied, and the treatment is repeated twice a week, or oftener, and as a rule the discharge ceases in four weeks.

J. F. J.

CYST OF LABIUM MINUS.

AGNES BLUHM, Landau's clinic (*Archiv. f. Gyn.*, Bd. lxii., H. i.), met with two cysts of the labia minora, the size of a small apple and resembling glandular cystomata. From examination she refers them to mucous glands arising from misplaced germs or from abnormal development from the labial epithelium. Since the investigations of G. Klein, they cannot be supposed to have originated in the Wolffian duct.

CYSTITIS AND THE USE OF THE CYSTOSCOPE.

BALDY (*Amer. Jour. Obst.*, March, 1901) has in practice found true cystitis to be a rare disease, and that few cases are really such out of hundreds of so-called. The symptoms of cystitis appear in the solids in the urine, and in a nervous condition, with irritation in the pelvis, vagina, or urethra. Rendering the urine alkaline, and dilatation of the urethra by a large cystoscope, will cure many cases. The use of the cystoscope is limited. The direct method of examination is the best, and the larger the instrument that can be used the better for the patient. Summing up he says: In women I believe cystitis to be exceedingly rare; the use of the cystoscope very limited—indeed, as far as catheterising the ureters is concerned, almost *nil*, excepting in a few cases for diagnostic purposes. A large number of these bladder troubles are purely neurotic.—J. F. J.

THE VAGINAL GLANDS AND THE CYSTS ARISING FROM THEM.

DAVIDSON (*Arch. f. Gyn.*, Bd. lxi., S. 419) reports from Landau's clinic a case of multiple cysts of the vagina, undoubtedly originating in true vaginal glands, which formed a mass resembling a cock's comb and extending from above downwards for 3-4 cm. in the right fornix of a woman of 27. Examination of the part removed showed all the layers of the mucosa along the posterior wall of the vagina from the fornix half way down, were crowded with sacs up to the size of a pea and containing fluid. These sacs were lined with a single layer of cylindrical epithelium secreting mucus. Numerous sinuous and branching glandular channels, a few with narrow discharging ducts, lost themselves in the scaly epithelium of the vaginal surface. There were connections between the glands and cysts in all possible stages, so that in some instances the cystic formations were connected with the superficial epithelium.

This is the sixth published case of vaginal cysts arising out of or present and connected with vaginal glands. Common characteristics of all were: the multiplicity of the cysts, their small size, and the limitation of the endothelium to a single layer. Davidson holds the vaginal glands to be quite analogous to those met with in the cervix: *glandula aberrantes cervicales* (Veit) a congenital erosion dispersed over the whole vagina; the cysts arising from such glands are to be looked upon as ovula Nabothi of the vagina.

PERSISTENCE OF SCARS ON THE CERVIX.

R. CHROBAK, Vienna (*Centralb. f. Gyn.*, 1901, No. 1), in connection with a forensic case, kept fourteen women under observation in order to ascertain how long the scars of vulsella

remained visible on the cervix. In the puerperal uterus he found that probably, owing to the rapid regeneration of the epithelium, the scars disappeared on the average in four days, but in the non-puerperal uterus not for twelve. The vulsella had in nine cases been applied for the removal of remains of abortion.

THE MENSTRUAL FUNCTION.

MERLETTI (*Ann. di Ost. e Ginecologia*, 1900, Nos. 9, 10, 11) reviews the many discussions held from time to time on the sexual life of woman and the function of menstruation; the multiple and complicated problems connected therewith are amply developed and the varied theories put forth to explain the origin and the essence of the phenomenon are linked together, and the whole harmonised with subtle acumen and intelligent criticism. The story is a long one, embracing the Biblical conception, the fermentation theory and the mechanical, the vitalistic and anatomical theories.

The anatomical changes during menstruation are exhaustively examined, and the following notions are collected from the study of the facts:—

(1) An intense hyperæmia occurs periodically in the uterus, the tubes, and the ovaries at intervals of about four weeks.

(2) This hyperæmia begins about eight to ten days before the sanguineous flow, and is the cause, on the one hand, of the premenstrual tumefaction of the uterine and tubal mucosa, and on the other, of the hydropic distension of the more mature follicles.

(3) The ultimate effect of this hyperæmia is upon the mucosa of the uterus and tubes in hæmorrhage from their blood-vessels, and upon the ovaries in the rupture of the follicles and the escape of one or more ova.

(4) The maturation of the ova does not lead to the hydropic distension of the follicles, the liquefaction of the endofollicular elements augments little or nothing the contents of the follicles, and is only a completing stage in the growth of the ovisacs, which become atrophied.

(5) Maturation is continuous in all the follicles and associated with the conditions of the perifollicular circulation; on the other hand the dehiscence is periodic, and depends upon the hyperactive circulation of the perimenstrual period.

The causes of puberty and the menopause are also discussed, and the question of the internal secretion of the ovary is argued.

The now accepted conception of menstruation, approximately a return to the ancient one condemned by Hippocrates and Soranus of Ephesus, is an outcome of the evolution of the

new Lamarck school. Menstrual hæmorrhage represents the reserve of nutritive force fabricated in excess of its own personal requirements by the female organism in view of the reproductive function; in the parabola of the female life it lasts only during that period in which the organism, after sufficient development and before progressive involution, has at its disposal an amount of vital energy more than sufficient for its own growth and support, and available for the conservation of the species.

The ovarian activity, which so often coincides with the catamenia, must be accepted as a consequence of the modification in the circulation of the blood affecting the entire system, but more especially the pelvic organs. The metabolic and vascular tension reach their maximum on the eve of the appearance of the genital loss; this loss promptly alleviates their intensity and reconstitutes the functional equilibrium. The catamenial discharge, by relieving the system of injurious products circulating in the blood, the "premenstrual toxæmia" of Charrin, may justly be esteemed, as it is by popular tradition, as a purge, and the uterus be included among the emunctory organs. The expression *menorrhæmia*, was introduced by Reiffer to indicate the intoxication of the system by pathological amenorrhœa.

F. E.

ATMOKAUSIS.

STOECKEL (*Theor. Monats.*, No. 12, 1900) reports that this method has been successfully employed twenty-three times in the Bonn clinic during the past year. The results in severe menstrual and climacteric bleeding were very good, and he recommends the method for such cases only, and not for such as are complicated by myoma polypi, remains of abortion, or extensive endometritic changes. In a case of hæmophilia atmocausis saved the patient's life.

TEMPORARY VENTROFIXATION.

ROSE, Hamburg (*Centralb. f. Gyn.*, 1901, No. 12), in performing laparotomy on a woman of 25 with a ruptured tubal pregnancy, found that the serosa of the posterior wall of the uterus and of Douglas' pouch was dull and injected, and apprehensive of adhesions being formed, he made a temporary ventrofixation by carrying a strong catgut ligature through fascia, muscle, peritoneum and right round ligament, and knotting the ligature on the fascia. After fourteen days the uterus was found in the normal position and freely mobile, without any adhesions. He considers the proceeding indicated in laparotomy whenever retrouterine adhesions are to be feared, especially in tumours of the pouch of Douglas. In the same way, under

similar indications, a temporary vaginofixation may be carried out. If an unabsorbable ligature is used it must be knotted externally and removed at the proper time.

THE SUPRASYPHYSEAL TRANSVERSE INCISION OF KÜSTNER.

KUHNE, Marburg (*Centralb. f. Gyn.*, 1901, No. 1), reports upon twelve cases in the Marburg clinic in which abdominal section was done by Küstner's method, all being cases of ventrofixation for mobile retroflexion or prolapse, and all recovering without interruption. As regards the development of hernia only five of the patients were examined, and in them no hernia was to be found; but the number is too small to be the basis of definite conclusion. As regards the scar this method is decidedly less disfiguring, an advantage to which many women will not be indifferent.

THE ORTHOPÆDIC RESULTS OF THE ALEXANDER-ADAMS OPERATION.

KRÖNIG AND FEUCHTWANGER, Leipsic (*Monats. f. Geb. u. Gyn.*, Bd. xi., S. 621, 795, 1900), report that for the last three years the operation preferred in the Leipsic clinic for uncomplicated retro-versio-flexio uteri and for descensus uteri mobilis has been the Alexander-Adams operation. Zweifel's method of performing it is essentially the same as Kocher's. The skin is united by Zweifel's double suture. Between 1896 and November 1, 1899, 180 women underwent the Alexander-Adams operation, of whom 68 were examined at least nine months afterwards; in 18 of these cases the operation was done for backward displacement and the result when the patient was discharged was excellent. The earliest recurrence was noticed seven months after operation. In several instances the women had conceived, so that for estimating the orthopædic result only 14 women were available; among these retroflexion had recurred in three.

In 50 women with descent of the vagina, the result at the time they left the Clinic was satisfactory in all but two. But as all cases of descent with prolapse of the vagina underwent some operation for narrowing the vagina, such as colpoperineorrhaphy, Hegar's colporrhaphia anterior (or Saenger's Scheidenraffen), the last especially at or after the menopause, these operations are not available in the estimation of effects due to the Alexander operation alone. It is however certain that recurrences do take place after this operation.

MURATOW (*St. Petersb. med. Woch.*, 1900, No. 5) reports five cases in which shortening of the round ligaments was followed by complications; abortion in two patients who became pregnant, in consequence of the uterus being prevented from rising up into the abdominal cavity, septic infection in another case; in

the remaining two the ovaries were imprisoned between the uterus and the anterior abdominal wall. While admitting the value of the operation, Muratow thinks that greater care should be observed in the choice of cases, especially in young women.

F. E.

THE TECHNIQUE OF CLOSING THE INCISION IN ABDOMINAL SECTION.

BOVÉE (*Amer. Jour. Obst.*, March, 1901) says: The primary objects in closing the incision are perfect union and rapid healing. Perfect union is not the complete healing of the approximate surfaces, but their complete union in such a manner that subsequent hernia is very improbable. The causes of subsequent hernia are: early suppuration of the wound, faulty adjustment of the opposed surfaces, and burial in the wound of permanent suture material. Permanent sutures are accountable for a large part of post-operative ventral and inguinal hernia. Silver wire is to be avoided, because it may give trouble and have to be removed from the tissues one, or even six years after operation. Silkworm gut acts very badly as a buried suture. Silk is easily infected, and when buried is restless in the tissues, prolific of trouble to the patient, and catgut is too difficult to sterilise and too uncertain in permanent strength. Finally, he declares kangaroo tendon to be unquestionably the best suture material. It is easily sterilised and handled, and as prepared by Marcy remains a number of weeks in the tissues. In his own operations he adopts the most rigid aseptic precautions, and closes the incision in the following way: if the wound be less than six inches in length, the peritoneum is first closed with a fine, running, over-and-over suture, beginning at the upper end of the incision, and following down on one side and up on the other. This suture tied brings the cut edges of the peritoneum to a small point and lessens the surface within exposed to adhesions. Another small suture now picks up the deep or subperitoneal fascia, the two edges being whipped together. If the incision is in the median line, linea semilunaris, or between and parallel to them, a tier of suture in the muscle will be rarely necessary. Instead, the thick fascia receives the next layer, which will occasionally include the muscle and even the deep fascia. This layer should be of strong material. If the wound is more than six inches in length, in addition to the continuous, *en masse* sutures are placed along the incision one to two inches apart and including fascia and muscle. The fat is closed by a fine suture and also the skin in such a way that the suture material does not show. The wound is then covered hermetically with aseptic dressings and left for about twelve days, when union is complete. Bovée's results by this method have been excellent.

J. F. J.

CONSERVATIVE VAGINAL COMPARED WITH ABDOMINAL
LAPAROTOMY.

DÜHRSEN, Berlin (Thirtieth Congress of the German Surgical Society, April 12, 1901), said that he had performed vaginal laparotomy, that is anterior colpo-coeliotomy, 780 times for various different affections by the following method: a T-shaped incision is made in the anterior vaginal wall, the bladder is then detached to a suitable extent from the uterus, the broad ligaments, and even from the vesical peritoneum, and an opening of 5 to 6 cms. is made in the *cul-de-sac* of the vesico-uterine peritoneum, through which the uterus is turned over and brought to the vulva. One can then carry out most of the gynaecological operations for which abdominal laparotomy was formerly considered indispensable. The mortality of this method is not more than from 2 to 3 per cent. and is lower than that of abdominal laparotomy; there is no subsequent scar, no danger of intestinal adhesions or of abdominal hernia; convalescence is much shorter, the greater number of patients leaving hospital at the end of nine to twelve days. The only annoying consequence of the operation is that it sometimes entails trouble in a subsequent confinement, but this accident may be avoided by stitching up the peritoneum separately in the way he has successfully done since 1895. The operation has the advantage that in retro-deviation of the uterus it may be supplemented by vaginofixation. He has performed it in seventy voluminous cystomata of the ovary without losing a patient, and in twenty-eight extra-uterine pregnancies with only one death, due to an injury when the patient was in established convalescence.

Among other interventions practised by this method he mentioned the occlusion of the tubes to prevent conception in sick women, and inversely establishing permeability of the tubes to render conception possible; cauterisation of the ovaries for microcystic degeneration, a proceeding that he had found most beneficial by putting an end at once to pain and metrorrhagia and restoring the functions of the ovaries. He had, by the same operation, removed fifty-seven fibromata, some as large as a foetal head, and had made in a certain number of cases a cuneiform excision of uterine tissue, which had proved an excellent means of curing chronic metritis. By this method he was sure that from 50 to 70 per cent. of cases ordinarily submitted to abdominal laparotomy might be dealt with, and he preferred it to the posterior colpo-coeliotomy recommended by others, as it offered a much better operative field. He had, in 1889, suggested a para-vaginal incision analogous to Schuchardt's in difficult labour, and in 1891 for uterine cancer, and had, before Schuchardt, insisted on the importance of dividing the levator ani.

CONSERVATIVE VAGINAL OPERATIONS FOR LARGE FIBROMATA (PÉAN'S METHOD).

CANDIA (*Archiv. di Ostet. e Ginec.*, January, 1901) points out that the conservative tendency of modern surgery is nowhere more pronounced than in regard to fibromyomata of the uterus which, unless they cause grave disturbances and compromise life, ought never to be interfered with. He thinks it an obvious duty in the treatment of uterine fibromyomata, before resorting to surgical intervention, to try the effect of all the more innocent methods of treatment, especially the intrauterine application of electricity after Apostoli's manner, and says that Péan's method has proved a very valuable addition to gynæcological surgery, and is an innocent and rational procedure that may safely be relied upon in dangers not always to be foreseen and in difficulties otherwise insurmountable. F. E.

MALIGNANT DEGENERATION OF MYOMATA.

FLATAU reported to the Nuremberg Society on February 21, 1901 (*Muenchener m. Wchns.*, 1901, No. 14) that in a total of 6,561 gynæcological cases he had met with 104 cases of uterine myomata, and that 5 of these had undergone malignant degeneration.

(1) 1892, II.-para, of 61; sarcomatous degeneration of a submucous myoma with extension of the disease to the uterine walls and ligaments. Palliative excochleation.

(2) 1898, V.-para, of 54; had undergone in the preceding ten years five operations for the extirpation of constantly recurring submucous polypoid myomata. Myoma as large as a child's head in sarcomatous degeneration, with perforation into the left half of the pelvis. Palliative operation.

(3) 1900, II.-para, of 43; ichorous submucous myo-sarcoma the size of a fist; septicæmia. Hysterectomy; exitus.

(4) 1900, Spinster, of 69; symmetrical development of myomatous masses in both horns of a uterus arcuatus. Ichor and hæmorrhage for six weeks. Outburst of sarcomatously-changed myoma into the cavum uteri. Vagino-ventral hysterectomy; well at present.

(5) 1901, I.-para, of 54; rapid increase of a tumour in the left side of the abdomen; pain and loss of strength. Myoma subserosum uteri sarcomatodes. Laparotomy. Tumour comprised (1) a partially softened subserous myoma of the size of a child's head; and attached to this by broad adhesions (2) a metastasis in the mesentery of the small bowel, of which the centre was softened by necrosis, leaving a shell only 2 mm. thick. Palliative supravaginal removal of the uterus and tumour and

as much of the metastasis as was possible, the rest being stitched into the abdominal wound.

Cases 1 and 5 were spindle-celled, 2 and 3 diffuse small-celled sarcoma, while 4 was typical of the alveolar round-celled variety. In the first 3 cases the degeneration had taken place from without inwards; no trace of uterine mucosa could be demonstrated.

In case 4 the malignant process forced its way from a central spot towards the uterine cavity; in the fifth case the sarcomatous foci were distributed in the interior of the myoma, to be recognised by their marrow-like appearance, softening the central foci with some hæmorrhages.

Discussing the various forms of malignant degeneration of myomata, Flatau opined that most forms of sarcoma developed from the cells of the connective tissue stroma. Metaplasia of muscle cells into sarcoma cells, that is evident demonstrable transition of normal myocytes into sarcoma cells of various size and colour, with irregular nuclear forms in myoblasts were not to be found in any of his sections, but he recognises the significance of the specimens of Williams and Pick. He could hardly accept the alleged metaplasia of myocytes into cancer cells, and considered the carcinomatous degeneration of myofibromata to be secondary, either by growth of the epithelial surface (mucosa) into the myoma, or by cancerous proliferation of epithelial elements of misplaced fragments of organs, such as have frequently been demonstrated in myomata and fibromata, and particularly in such growths in the edges and corners of the uterus. The prognosis of clinically evident malignant degeneration is bad, but its frequency should not be over-estimated nor premature conclusions be drawn from the self-evident accumulation of atypical cases in hospitals, as to the biological behaviour of myomatous new growths in general. On this account Flatau would not recognise malignant degeneration as having any special influence on the indications for operations for myomata.

COMMENCING CANCROID OF THE PORTIO AND THE MODE OF EXTENSION OF CERVICAL CANCER.

VON FRANQUE (*Zeits. f. Geburtsh. u. Gynäk.*, Bd. xliv., S. 173), with the object of deciding whether the opinion now freely advanced that partial operations for carcinoma portionis uteri should be altogether abandoned, is justified by anatomical facts, carefully examined thirty-four uteri, making of several a series of transverse sections from portio to fundus. Most of the specimens were cancroid of the portio and therefore of special interest for the question stated, as this form of the disease may, under some circumstances, be dealt with by partial operations which *a priori* are inadequate in carcinoma of the cervix.

The grave dangers of panhysterectomy undoubtedly make it desirable to perform, in preference to it, a supravaginal amputation in all cases in which pathological anatomy has shown that such an amputation offers an equal prospect of success, and in commencing cancrroid of the portio this is the case. The diagnosis of such cancrroid depends on the following conditions:—(1) The new growth must be confined to the superficial and external part of the portio; (2) in its area and depth the new growth must be of a moderate extent, and this is not an easy matter to decide by clinical examination; (3) it must be absolutely certain that the new growth has not yet found its way into the cervical canal, for once this has taken place we cannot be sure that the disease may not, here and there, have crept unexpectedly far over the mucosa into the uterus.

After discussing the various ways by which carcinoma may extend from the cervix to the corpus uteri, the author draws the following noteworthy conclusions:—The continuous advance of carcinoma from the collum to the corpus along the lymph channels described by Seelig, but only to be demonstrated by microscopical examination, need not, as regards cancrroid of the portio in its early stage, enter into our consideration; even in cases of longer standing such a mode of extension is rare. When, though apparently superficial, the cancrroid is of some extent, we must always reckon with the possibility of its having crept, of course continuously, over the mucosa; from an observation of the kind he further concludes that partial operation on the uterus should not be thought of once a cancrroid of the portio has extended beyond the external os, and still less if it has done so all round. Metastases from the collum to the uterine walls are uncommon and do not occur till late. Supravaginal amputation of the uterus in commencing cancrroid of the portio is justified, not merely by the investigation of these uteri, but also by the consideration of the more advanced cases, and is supported by that of the extreme ones, for even in these last, a non-continuous attack upon the corpus is quite exceptional. The normal conditions of the blood and lymph circulations completely favour such supravaginal amputations in the early stages of cancrroid. Ries and others, who claim that in every case of cancer the abdomen should be opened and the pelvic lymphatics included in the extirpation, on the ground that they are invariably already infected, are wrong. Until the contrary is proved we may assert, on anatomical data, that these glands are not so infected in commencing cancrroid of the portio vaginalis.

A CASE OF MULTIPLE METASTASES OF A PRIMARY FLAT-CELLED EPITHELIOMA, BY INOCULATION OF THE MUCOSA OF THE CORPUS UTERI.

KUNZE, Jena (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 1), after recounting the known cases of flat-celled epithelioma of the corpus uteri, reports that in a VII.-para, aged 54, vaginal extirpation was performed for a cervical carcinoma extending from the middle of the cervix up to the internal os. The entire cavity was bestrewn with pin's head prominences, which were cancroïd new growths. The lower part of the cervix showed normal scaly epithelium; deeply penetrating flat-celled epithelioma, breaking down in the middle part and to a less marked degree in the upper part, affected the rest of the cervical canal. In the cavity the scaly epithelium was spread out in a layer of uniform thickness, into which were implanted small processes of mucosa infiltrated with small cells. Kunze supposes a casting-off of portions of the cancer at the internal os closed by proliferation, and consequent dissemination in the cavum.

CANCER (INOPERABLE).

STAPLER (*Wiener. m. Wchns.*, 1901, No. 3) condemns the operation proposed by Jonescu, of abdominal section and ligature of all vessels directly or indirectly supplying the uterus with blood, with the idea of inducing atrophy of the cancerous uterus, and declares that if after such an operation a collateral circulation was not established we should not have atrophy but gangrene. If a case of cancer is beyond radical operation, no such extreme and useless intervention can be justified, especially as the scraping and cauterisation of the uterine cavity with 30 per cent. solution of chloride of zinc, or with fuming nitric acid, is a measure innocent in itself and giving great relief.

CANCER OF THE UTERUS AND ITS SURGICAL TREATMENT.

JORDAN, Heidelberg (30th Congress of the German Surgical Society, Berlin, April 12, 1901), opening the discussion, said: Of the operations proposed for the radical cure of uterine cancer, those involving the perineal and sacral regions are now almost entirely abandoned; the former because they furnish but difficult access to the seat of the disease, the latter because their relative large mortality is not compensated for by real advantage. The operations in use are those by the abdominal route, as recommended by Freund, and those by the vagina, originally proposed by Czerny.

For some time vaginal hysterectomy was universally adopted owing to its safety, but the frequency of recurrence after it has

led some operators to return to the abdominal operation. This development has been received with some enthusiasm in France, but most German surgeons have adhered to vaginal hysterectomy, the absolute superiority of the abdominal operation not having yet been demonstrated. It is, therefore, well to compare the two methods on the basis of the results hitherto obtained by the partisans on either side.

The vaginal operation, which is still practised in Czerny's clinic, has a mortality of about 5 per cent.; the number of radical cures, that is to say, permanent at least five years, according to the statistics furnished by the Berlin Gynecological clinic, amounts to about 33 per cent., and the proportion of cures of cancers of the cervix and corpus uteri only is still larger, for malignant growths of the portio vaginalis are more fatal. These results being equal, if not superior, to those of operations for cancer of the breast, with clearing out of the axilla, there would seem *a priori* to be little chance of improving them considerably.

Any operation to be more complete than those now at our disposal should provide for more extensive extirpation of the vaginal fornices in cases of cancer of the portio, and of the parametrium and lymphatic glands in cancers of the cervix and corpus. As regards the ablation of the fornices the abdominal operation offers no advantages; the extirpation of the pelvic connective tissue is, even when not infiltrated by new growth, a matter of considerable difficulty by either route. On the other hand, if the broad ligaments are involved by the cancerous growth, the operation is not, in my opinion, more difficult by one than by the other, unless the neoplasm has extended to the lateral walls of the pelvis, when intervention is altogether useless.

Extirpation of the glands can only be done from the abdomen. At the same time the evidence up to the present seems to show that in uterine cancer the invasion of the glands is a late occurrence, and also that it is very irregular, and that sometimes the glands are merely swollen and not cancerous. I am therefore inclined to believe that extirpation of the glands cannot be really of use unless it be complete and systematic, and therefore so serious an intervention that its gravity would not be compensated for by its advantages. As a matter of fact, the mortality of the abdominal operation varies between 20 and 30 per cent., and as far as one can judge at present the definite results do not appear to be any better than those of the vaginal operation. I therefore conclude that vaginal hysterectomy is the operation of choice, and that abdominal extirpation is indicated only when the uterus is too large to be removed by the vagina.

SCHUCHARDT, Stettin, concurring that the vaginal operation was the one of choice, said: I have employed the paravaginal

incision, which I suggested seven years ago, in sixty cases with an operative mortality of 12 per cent. This relatively high mortality must be attributed, not to the paravaginal incision, which I have proved by many operations on non-malignant cases is absolutely harmless, but to my adopting much wider indications for operation than most surgeons. The incision, I may add, should, after outlining the rectum, approach as near as possible the median line, so as to divide the perineal body in half.

My results have been in easy cases 80 per cent. of cures, 37 per cent. in complicated ones, and 14 per cent. in those which were very difficult. The average for one year after the operation is 36.3 per cent., for two years 35.7 per cent., and for interventions dating five years back 30 per cent. The number of cures (five years) calculated, not on the number of cases operated upon but on the total number coming under treatment, is 24 per cent. This percentage is better than any results hitherto published, though of late years I have operated in 61 per cent. of all cases coming under my care, a larger proportion than other German surgeons, and in spite of accepting wide indications for operation, thanks to the very radical measures allowed by the paravaginal incision, I have obtained better results as regards permanent cure.

DOEDERLEIN, Tübingen, also expressed himself as a partisan of the vaginal method, describing his own *technique* as follows:—I draw the cervix forcibly forwards with two forceps and incise the posterior *cul-de-sac* with a pair of scissors, at once opening the pouch of Douglas. I enlarge the incision backwards in the vagina and upwards in the uterus, and then placing my forceps successively one above the other, turn the uterus upside down, and bringing it to the vulva, divide it into two, in the way done by Müller. By this method the detachment of the bladder is effected, as it were, spontaneously, the connective tissue between it and the uterus not being at all dense, and there is no danger of injuring the bladder itself. Then pushing back the base of the bladder and ureter from each half of the uterus with the finger, the extirpation is easily completed.

OLSHAUSEN, Berlin, said: I agree with most of M. Jordan's remarks and concur with him in preferring vaginal hysterectomy. Until lately I did not operate when the cancer extended beyond the uterus, but I now accept somewhat wider indications and intervene in about 50 instead of 31 per cent. of all cases I see. Recurrence is not uncommon between the third and fifth years, but very rare later; I have, however, met with one such at the end of twelve years. I find that operating on 50 per cent. of all cases forty-seven survive the operation and eighteen are free from recurrence five years after it. The abdominal route I

employ only when vaginal operation is impossible. Schuchardt's paravaginal incision I employ but seldom, and do not think it required in more than 3 to 4 per cent. of the cases. Doederlein's method seems to be an advance in *technique*, though I am not a partisan of systematic bisection of the uterus; when the cancer can be easily disinfected that method is useful, but if the uterine cavity contain any purulent matter there is danger of septic infection that may be fatal. The detachment of the bladder, moreover, is far from easy when the cancer encroaches on the vesical wall, and then Doederlein's method might not prevent an involuntary lesion of the bladder wall.

MARTIN, Greifswald: I think with M. Jordan that the extirpation of the ganglia has not compensating advantages. I believe not only in vaginal operations but also strongly in M. Schuchardt's paravaginal incision. The detachment of the bladder may offer difficulty, even where there is no cancerous adhesion, in the relatively large number of cases in which that organ is widely adherent to the anterior wall of the uterus.

WERTHEIM, Vienna, said: For the last two years and a half I have invariably operated by the abdomen and removed the ganglia, believing that the best method to augment the chances of radical cure. I have treated in this way fifty cases, but they are too recent to found any definite conclusions upon them: even though convinced that some recurrences will take place, I have as yet not met with any. The mortality was high; in the first series of thirty operations I had eleven deaths, in the second series of twenty only three. Two of the deaths were due to necroses of the ureters, no doubt due to a too extended isolation of these canals; I have, however, modified my *technique* in that respect, and have a firm hope that the mortality of the operation in my hands will diminish to a considerable further extent. The removed ganglia were in all cases submitted to minute examination and in eighteen found to be cancerous, though to the naked eye they did not appear to be so. I attach, however, greater importance to the extirpation of the tissue of the broad ligaments than to that of the ganglia, for it is in the former that recurrence most frequently occurs.

FREUND, Strasburg, said that to compare the two methods impartially the same surgeon ought to perform them indifferently without choosing easy cases for the one and inoperable cases for the other. He did not think that the abdominal operation should be abandoned now that in the case of cancers of other organs our aim is to perfect the *technique* of extirpating the ganglia; uterine cancer should be treated on the same principles as all other malignant neoplasms.

IS VAGINAL EXTIRPATION OF THE UTERUS AN OPERATION
SUFFICIENTLY RADICAL FOR UTERINE CANCER ?

WINTER (*Zeits. f. Geb. u. Gyn.*, Bd. xliii., S. 509), discussing the above question, points out that whatever advantages may be claimed for the abdominal operation recently advocated on theoretical grounds in certain quarters, its immediate results are by no means as good as those of vaginal hysterectomy, and that while its mortality is 20 per cent. in place of 5 per cent., its ultimate results are not yet ascertained.

Vaginal hysterectomy is a much more serious affair in cancerous than in any other cases, and this Winter attributes to the numerous micro-organisms which are harboured by the new growth; he therefore insists that the operation must be preceded by curettage and energetic cauterisation. Patients may in his opinion be considered cured in whom there has been no recurrence at the end of five years, and such was the case in 85 of 260 women who survived the operation at Berlin. He therefore concludes that when the cancer is limited to the uterus, vaginal hysterectomy will cure about one third of those affected.

When the disease extends beyond the uterus success, though possible, is extremely rare, and for such cases vaginal hysterectomy cannot be termed a radical operation. The paravaginal incision is a technical improvement when the parametrium is affected. Pressure forceps have no advantages over ligatures. As regards the permanence of the result one can make no assertion.

The precautions hitherto adopted to prevent inoculation during the operation have proved insufficient, and extirpation by the actual cautery, though desirable for that object, is dangerous to the neighbouring organs.

As a palliative measure, hysterectomy is too serious an operation and he prefers ablation of the collum, or if the organ is absolutely fixed, the use of the curette or thermo-cautery.

Winter points out that, to estimate the exact proportion of uterine cancers that are curable, we must take into account the proportion of cases operated on, as well as the number of cures. At Berlin, before 1892, 28·7 per cent. of all cases of uterine cancer were operated upon, and of these 33·0 per cent. were cured, or only 9·5 per cent. of the whole; at the present time about 48·0 per cent. of all the cases undergo operation, and the same operative success would imply 16·0 per cent. of all cases to be curable. Whether abdominal hysterectomy can give better results than these it remains for the future to show.

UTERINE CANCER; THE ULTIMATE RESULTS OF VAGINAL
PANHYSTERECTOMY.

REIPEN, Halle (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 1), in a critical examination of 303 cases submitted to radical operation by Kaltenbach and Fehling, concludes that after a freedom from any recurrence for three years a cure may be relied on. The cases comprised 173 cervical carcinomata, 77 limited to the portio, 8 affecting cervix and portio, and 23 cases of cancer of the body of the womb. The age of the patients varied from 18 to 67, and all but 7 had borne children. About one-third of all carcinomatous cases were operated on, 4 only by the combined abdomino-vaginal method, all the others by the vagina; Freund's operation had not been done at all. Accidental injuries happened in 8.91 per cent. and 6.6 per cent. died in consequence of the operation. There was no recurrence in 25.14 per cent. of all cases, and none in 75.0 per cent. of those C. corporis uteri. Freund's operation is not to be recommended; moreover, recurrence is found not in the glands but in the cicatrix.

LEWERS (*Lancet*, January 5) gives the final results of 40 successive cases of vaginal hysterectomy for carcinoma; 14 cases remain free from recurrence (the malignant nature of 2 rather doubtful) two to seven years. He rejects the operation for cases considerably advanced; altogether when the broad ligaments are involved. After detaching the cervix he uses the thermo-cautery to the wounded surface.

DECIDUOMA.

POLANO, Greifswald Medical Society, February 2, 1901 (*Münchener m. Wchns.*, 1901, No. 11), concurs with Marchand that the hydatid mole arises from a rank proliferation and dropsical degeneration of the ectoderm, which penetrates deeply without involving the maternal vessels in sympathetic lesion. The stroma of the villi is entirely passive, becomes necrotic and is removed by serous transudation. Deciduoma malignum, in the typical form, is only to be differentiated therefrom by the erosion of the vessels on the part of the overgrown ectoderm and the consequent occurrence of metastases. The diagnosis depends rather on clinical observation than on the microscope; the treatment upon prompt radical extirpation. Polano would classify deciduoma with carcinoma, though it differs therefrom in the following points: (1) The malignant proliferation of cells from one individual (the fœtus) into another (the mother); (2) its mode of extension through the blood-vessels; (3) the stroma being in no way involved.

SYNCYTIOMA MALIGNUM AND ITS CONNECTION WITH THE
HYDATID MOLE.

KWOROSTANSKY, Zurich (*Archiv. f. Gyn.*, Bd. lxii., S. 69), declares that Langhan's cells and syncytium are identical, and that the latter can be formed from the former. The hydatid mole is, as it were, a hyperplastic placenta; syncytioma malignum is a further stage of the hydatid mole. He quotes three cases; in one the woman with an hydatid mole remained perfectly healthy after it had been thoroughly removed; of two others with syncytioma malignum, one died as if from pyæmia, before a radical operation could be performed, the other, four to five months after vaginal total extirpation, is quite well. It is worth noting that in both malignant cases the uterus had been curetted for hæmorrhage, respectively nine and four to five weeks before the second intervention, upon which the microscopical diagnosis depended. In both cases the *débris* of the first curettement had been, macroscopically, free from suspicion, and therefore had not been further examined.

WINKLER, Breslau (*Ibid.*, S. 366) declares in contradiction to v. d. Hoeven (*BRITISH GYNÆCOLOGICAL JOURNAL*, vol. xvi., Summary, p. 199) that the syncytium arises from the maternal decidua. Langhan's cells form the foetal ectoderm; the clinical aspect of the disease and the importance of prompt intervention is not so disputed.

BROTHERS (*Amer. Jour. Obst.*, January, 1901) reports the following case: The patient, aged 24, in June, 1899, had an eight weeks' miscarriage, and in June, 1900, such severe flooding after delayed menstruation that her doctor curetted her. The hæmorrhage came on again two and a half weeks later and persisted on and off till she came to the hospital on August 21. Curetting was done by Professor Boldt, and a small suspicious mass removed, which was pronounced to be of myxomatous structure. She remained well till the end of September, but then had profuse hæmorrhage; carbolic acid was applied to the uterine cavity several times, but with no avail. On October 25 she again had severe hæmorrhage, and Brothers did a vaginal hysterectomy under intraspinal injection of cocaine. A nodule of new growth projecting from the endometrium was examined by Professor H. T. Brooks and pronounced to be "*deciduoma malignum*."

J. F. J.

OVARIAN CANCER AND THE RESULTS OF ITS SURGICAL
TREATMENT.

ESTOR and PUECH (*Rev. de Gyn. et de Chir. Abdom.*, December, 1900) have collected 372 published cases of the total or partial extirpation of malignant ovarian neoplasms. Among them are

included a certain number of vegetating cystomata classified as *carcinomatous papillary tumours* or *adeno-carcinomata*, as well as *carcinoma*, *sarcomata*, *epitheliomata* (which they look on as a form of sarcoma), *teratomata*, the malignity of which they consider doubtful, and finally *cancerous papillomata*.

On the whole, among the 372 cases there were 265 recoveries and 107 deaths, a mortality of 28 per cent.; but before the adoption of antiseptics in 1881 the mortality was 52 per cent.; between 1881 and 1890, 26 per cent.; and since 1891 only 21 per cent. The fatality of the operations is to be principally attributed to the frequent occurrence in cancerous cases, of adhesions, which, as in all other tumours, greatly increase the dangers of intervention.

Only 176 cases are available for the study of the remote results, the fate of 89 not being known. Of the 176, sooner or later 104, or 59 per cent., suffered from recurrence, while 72 were free from such when last seen. In about one half of the cases recurrence took place within three months, and in a third more within twelve, so that a total of 81 per cent. of the cases which recovered from the operation were again attacked by the disease in less than a year.

Of the 72 women in whom recurrence was not observed, 28 were under observation for less than a year, 16 others for less than three years, and 28 for three years at least, the term which may be considered to constitute a cure sufficiently prolonged, if not definitely permanent. It seems, therefore, that nearly 16 per cent. of the women who survived the operation and remained under observation had no return of the disease for three years. Moreover, among these women 4 were cured for fifteen years or more, 6 for more than ten, and 7 for more than five.

Prolonged survival without recurrence was much more common in sarcomatous cases (12 per cent.) than in carcinomatous (3·2 per cent.). Moreover, all the cases that so endured for more than ten years had been ones of sarcoma.

The results show that surgical intervention is justified in malignant ovarian growths when there is no special contra-indication. No operation is, however, justified unless clinical examination, and, if necessary, exploratory laparotomy, has proved the possibility of total exeresis. If the connection of the new growth with neighbouring organs is too intimate, or if metastases are present, one should abstain, or even if cachexia suggests the generalisation of the disease.

PRIMARY TUBERCULOSIS OF THE FEMALE GENITALS.

JORFIDA (*La Riforma Medica*, No. 240, 1900) writes: In 1879 Corssil described a case of tubercular ulceration of the vagina, and later, in 1883, Babes found Koch's bacillus in the vaginal

secretion. Other cases have been since reported, two such, by Demme, are interesting as affecting children, aged respectively 13 and 7 months. In Italy, also, this important question has met with much attention. A case of tubercular infection during the puerperium is reported by Jorfida himself, but the true cause of the infection was not suspected.

Geil found that in 45 cases of tubercular disease of the uterus the vagina was not implicated except in three. Tuberculosis of the vagina may manifest itself either in the miliary or the ulcerative form. The commencement and growth of the condition is slow. The cure is not simple nor definite, and the results are not always good.

AJELLO (*ibid.*) has investigated a case of primary tuberculosis of the cervix uteri which had been diagnosed by a distinguished gynecologist as carcinoma of the cervix. Under the microscope the principal characteristics to be noted were the aggregation of small nodules formed of epithelioid cells with one or two giant cells in the centre, or by typical tubercles, the absence of caseation and necrosis, and the excessive rarity of tubercle bacilli.

A further important fact was that, wherever the tubercle was most advanced the new-formed connective tissue was more prominent.

To explain this two sets of causes may be suggested: (1) the bacilli were not sufficiently virulent or their virulence might have been attenuated. The absence of lymphadenitis is also in favour of such attenuation. Many experiments have been reported which would support these views. (2) The seat of the disease was ill-adapted for the development of tubercle bacilli, as is shown by the rarity with which tubercle affects the portio-vaginalis.

Another peculiarity disclosed by histological examination was the co-existence of glandular changes, ranging from typical proliferation to microcystic degeneration. As no tubercular lesions were to be found in any of the other organs the author was justified in diagnosing primary tubercle of the cervix uteri.

F. E.

TUBERCULOSIS OF THE FEMALE GENITAL ORGANS AND OF THE PERITONEUM.

SIPPEL, Frankfort (*Deutsche med. Wchns.*, 1901, No. 3), attributes the cures of tuberculous peritonitis by laparotomy to the local hyperæmia caused by opening the abdomen being followed by the formation of a curative serum. He reports several cases.

BAUMGART (*ibid.*, Nos. 2 and 3) also reports 36 cases, and draws the following conclusions: In the operative treatment of tuberculous peritonitis, vaginal cœliotomy is at least as

beneficial as abdominal, and is a more practical operation attended with less risk. When laparotomy is performed, a short incision in the linea alba is better than a long one. Rectal examination is valuable, not only as an aid in diagnosis, but for the control of the course of the cure. Both the dry and the ascitic form of tuberculous peritonitis are amenable to operative treatment.

SALPINGITIS BILATERALIS TUBERCULOSA (?) CURED BY LIGATURE OF THE OVARIAN ARTERIES.

LINDFORS, Upsala (*Centralb. f. Gyn.*, 1900, No. 41), records the following case: A maid of 20 years old was admitted to the Klinik with bilateral tumours of the adnexa and fever, and a diagnosis was made of salpingo-oöphoritis bilateralis subacuta. On laparotomy Lindfors found that the tumours consisted of the swollen and sausage-shaped tubes, whose anterior surfaces were bestrewn with reddish-grey miliary knots. An exploratory incision and microscopical examination was not undertaken, and as the tumours were closely bound down to the ovaries, intestines and pelvic peritoneum, instead of extirpation, Lindfors ligatured the ovarian vessels in the way proposed by v. Antal for inoperable myomata, and with brilliant success, cure being complete in four weeks, and ascertained to be permanent two years later. Lindfors himself draws attention to the fact that the diagnosis of tubercle was not determined by histological examination, and that, as is well-known, a simple laparotomy may cure tuberculous peritonitis.

OSTEOMALACIA AND THE OVARY.

FINZI (*Ann. di Ost. e Gin.*, 1901, No. 2) recalls the fact that Bulius (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. i., Heft. 1) concluded from careful examination of six ovaries removed from osteomalacic patients, that neither as regards the vessels of the hilum, the hyaline degeneration, or the follicular atresia, are the changes macroscopical or microscopical at all constant, and therefore that it is not possible to diagnose osteomalacia from any changes to be found in the ovaries. None of the theories advanced to explain the disease are, in his opinion, satisfactory.

SCHARFE (*Ibid.*, Bd. iii., Heft. 3) says that the term "osteomalacic ovaries" is unwarranted by any histological changes to be found with any reasonable degree of constancy in the ovaries of osteomalacic patients. He has himself examined four ovaries from non-pregnant women on whom vaginal metro-salpingo-oöphorectomy had been performed, and two from cases of Porro's operation, and could find nothing to differentiate the

first from the second class, nor any evident hyaline degeneration of the vessel walls, nor any excessive vascular growth.

These results confirm the views advanced by Professor Truzzi in 1898 in his work "On the Processes of Angiodystrophia in the Ovaries of Osteomalacic Women," and are a bar to any of the lesions in the ovary hitherto described being received as specific of osteomalacia. Even hyaline degeneration of the vessel walls, which seems to be the least inconstant of any of the lesions found in the ovaries of osteomalacic women, is in no way characteristic, but according to Truzzi identical with that secondary to such disorder of circulation as is found alike in the ovaries of women deformed by osteomalacia, or affected with uterine fibromyomata or pelvic varicocele, that is to say, in all cases of chronic stasis in the circulation of the appendages.

F. E.

ORIGIN, GROWTH, AND FATE OF THE CORPUS LUTEUM IN THE OVARY OF THE PIG AND MAN. By J. G. CLARK, M.D.

This paper appeared in the Johns Hopkins Hospital Reports. An abstract in *British Med. Chir. Journal*, No. 71, shows that Dr. Clark considers he has proved that the view of v. Baer is correct and that the course of origin of the lutein cells is from the connective tissue cells of the theca interna, which becomes specialised. That the function of the corpus luteum is one of preservation of the circulation of the ovarian stroma and so of the function of ovulation; while the cessation of ovulation is induced, not by the disappearance of follicles, but through a densification of the ovarian stroma and destruction of the peripheral circulation, which prevents the development of the follicles.

F. F. S.

GLANDULAR OVARIAN TUMOURS AND HYDROCELE FEMININA.

KEHRER, Freiburg (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 1), in a large ovarian cyst met with a structure resembling that of an ordinary glandular proliferating cystadenoma, save that it contained unstriated muscle and a jelly-like connective tissue. To the left, below Poupart's ligament, in the same case, there was a tumour the size of a hen's egg, which proved to be a hydrocele.

FATAL SUPPURATION OF AN OVARIAN CYST.

LEBESQUE, Brussels (*Ann. Soc. Belge. Chir.*, Dec., 1900), reports the following case:—On June 6, 1900, A. R., housekeeper, aged 41, was delivered of a living seven and a half months' child after a normal and easy labour; her medical attendant then

discovered that she had a tumour in the right side of her abdomen. During the latter part of her pregnancy she had been laid up with slight pains in the pelvis, which returned after her confinement, lasted for a month and then gradually diminished, but did not entirely disappear. When admitted to the hospital on October 29 she was very weak and cachectic, with a temperature of 39.8° at night and 37.4° in the morning and a frequent and somewhat intermittent pulse. By palpation an irregular mass was made out in the right hypochondrium and some hard nodules and fluctuations were detected about three fingers' breadth above the umbilicus. The os uteri was soft and slightly open, the left *cul-de-sac* was free, and the tumour was moveable and did not impart its movement to the os. The sound then passed to 6 cm., but just before the operation it passed to 15 cm., having, as was subsequently discovered, found its way into the enlarged fallopian tube on the right side.

A large multilocular ovarian cyst containing thick odourless pus was removed by median laparotomy. A considerable number of adhesions between the omentum and small intestine and the superior and posterior surfaces of the tumour were separated under ligature. The left adnexa (and the appendix also) were sound. Bacterial examination showed that the contents of the cyst included a few pyogenic micrococci.

On November 5, the day before the operation, the temperature had been 40.3° C.; on the 7th it had fallen to 36.7° . On the 8th the patient's general condition was good; pulse 92, intermittent, no vomiting; temperature 36.44° morning, 36.7° evening. The next morning her pulse was 76, weak, temperature 37° . She died suddenly that afternoon, the third day after the operation. At the autopsy a little liquid was found in Douglas' pouch, but no lesion of any organ nor any fibrinous deposit on the peritoneum.

Attention has lately been drawn to the connection between suppuration of ovarian or broad ligament cysts and the adhesions of such cysts to the intestines or vermiform appendix. The author does not think that the infection could, in this instance, have been through the lymphatics of the adherent omentum and intestine, for the *B. coli* was not present in the pus of the cyst. Fraise and Legrain have, however, pointed out that the pus from ovarian cysts may be sterile. Concurring with the views of Green, Cumston, Pinard and Martin, Lebesque believes that pregnancy may possibly have exerted a causative influence.

P. Z. H.

INTRAPERITONEAL RUPTURE OF OVARIAN CYSTS.

HAULTAIN (*Edin. Med. Journ.*, February, 1901) reports six cases of this accident, and insists on the necessity of treating it by operation. This is not always easily arranged, as the symptoms are often by no means threatening and the patient and her friends are hard to convince of the necessity for intervention, because the woman's abdomen seems reduced in size; if the operation is not done the cysts generally soon fill again and adhesions are formed between them and their surroundings, which greatly increase the difficulty in removing them.

CYST DEVELOPMENT IN OVARIAN REMNANTS.

EHRENFEST, St. Louis (*Centralb. f. Gyn.*, 1901, No. 8), *apropos* of two cases related by Waldstein and Fischer (*v. ante*, vol. xvi., p. 202) of the development of cysts from remnants of ovary, intentionally or unintentionally left behind after operation, quotes from American sources similar cases reported by Coe, Waldo, and Emmet.

SOLID OVARIAN TUMOUR COMPLICATED WITH PLEURISY.

PRITCHARD (*Bristol Med. Chir. Journal*, No. 70), in describing the removal of the tumour, alluded to the presence of pleurisy, which he had noticed in three other cases of solid ovarian growths, and asks the question as to whether there could be any possible connection between the effusion in the pleura and the ovarian disease. The operation was uncomplicated, but on the tenth day symptoms of obstruction arose due to adhesions to the under surface of the abdominal wound: these were freed when the abdomen was opened for a second time and the case did well.

F. F. S.

TERATOMA OVARII.

BACKHAUS (*Münchener m. Wchns.*, 1901, No. 10) exhibited at the Leipsic Medical Society, January 15, 1901, a tumour as large as a man's head, removed by laparotomy from a girl of 17. The growth had developed in the course of three years, consisted chiefly of solid tissue, resembling homogeneous marrow in appearance, with cysts containing cartilage, hair and teeth; radiographically bony strata could be recognised. Microscopical examination showed a motley confusion of derivatives of all three germinal layers with undefined arrangement. A comparatively large quantity of embryonal brain matter was present, and spots were noticeable which appeared to be proliferating or ependyme cells. On the twenty-fifth day after the first operation (ovariotomy dextra), as the tumour was considered to be

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malignant, the other ovary and the uterus were removed by the vagina and two subsequent laparotomies were performed for ileus. After about three months metastases appeared in the most various organs, omentum, liver, brain and kidneys, and the patient after five months died in her own home. Backhaus classifies the teratomata, the solid embryomata of the ovaries, among malignant new growths.

PRIMARY CARCINOMATOUS DEGENERATION OF OVARIAN DERMOID CYSTS.

KEHRER, Freiburg (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 1), concludes, from eight collected cases and a personal observation of his own, that in case of cancerous degeneration of ovarian dermoid cysts the prognosis is very bad and depends entirely on the stage in which operation is undertaken.

AN INSTANCE OF FŒTAL INCLUSION IN THE ASCENDING MESOCOLON.

AHRENS, Bonn (Thirtieth Congress of the German Surgical Society, April 13, 1901), reported the following case:—A girl of 17 had during childhood an abdominal tumour which, after disappearing for some years, became again noticeable when she was 16. It was taken to be an infected hydronephrosis of congenital origin of a more or less moveable kidney, for the tumour lying in the right flank was surrounded in its upper part by large intestine, and her urine was purulent. On operation it was found to be a cyst included in the mesocolon, in shape closely resembling a stomach with some centimetres of intestine, containing moreover, about 4 litres of a bloody fluid of acid reaction and some pepsine. Histological examination of the cyst wall disclosed various kinds of mucous membrane and embryonic débris of tracheal cartilage.

SUPERNUMERARY AND ACCESSORY OVARIES.

SEITZ (*Volkmann's h. Vorträge*, No. 286), assistant at the Munich Woman's Hospital, on the basis of two personal observations and the available literature discusses the above-mentioned anomalies.

Only five cases of supernumerary ovaries have been published: (1) a third ovary, in the plica vesico-uterina (v. Winckel); (2) a third ovary and third tube (Keppler); (3) a third ovary on the right side with a special ostium to the tube (Schauta); (4) a second ovary and tube on the right side (Falk); (5) a unique case of three tubes and two ovaries on one, the left, side (Voigt).

Accessory ovaries Seitz classifies as intraperitoneal and retroperitoneal, and with them considers intraperitoneal and retroperitoneal tumours. He refers to some thirty-two cases, and gives the details of two cases operated on by v. Winckel while he was assistant. As the result of his studies he draws the following conclusions :—

(a) Supernumerary ovaries entirely similar to the normal pair are extremely uncommon, and are generally associated with supernumerary tubes. They are instances of malformation *per excessum*

(b) Accessory ovaries, not independent organs like the last, may arise (1) *in fetal life*, by proliferation of connective tissue and inclusion of ovarian substance chiefly during the so-called descent of the ovary; they are either retroperitoneal when shut off early, or intraligamentary if the duplication of the serosa has previously occurred, or finally and most frequently, intraperitoneal, still connected with the ovary by a band of connective or follicular tissue, or entirely separated; (2) they may arise *in post-fetal life* from pathological processes.

(c) Detached appendices of germinal epithelium in the form of ovular balls or primary follicles are met with, chiefly in the broad ligament.

The formation of tumours, which is relatively common, may, when the two ovaries are found as such, depend upon : (1) small detached germs of ovarian appendices, in rare cases; (2) an accessory or supernumerary ovary; (3) upon the ovaries themselves, as the tumour which often takes its origin in a small mass of cells, or like an embryoma from a single ovarian cell, may gradually form a pedicle and ultimately become quite independent.

RETROUTERINE SUBPERITONEAL TUMOURS.

WINTERNITZ, Tübingen, and HENKE, Breslau (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 2), report on two such tumours removed by laparotomy, the one almost entirely cystic, the other a solid, spindle-celled sarcoma. They suppose the cystic tumour to have arisen from a third ovary; it was remarkable on account of a co-existing small solid myomatous tumour and papillary excrescences containing crowds of psammous kernels.

KRÖNIG, Leipsic (*ibid.*), removed by laparotomy, from a III.-para of 36, a retroperitoneal voluminous multilocular cyst, derived from remnants of the Wolffian body, which he described as a paraöophoral adenomyoma, originally lying in the uterine wall but afterwards displaced into the cellular tissue of Douglas' pouch. It is fully discussed in comparison with other published cases.

MEDULLARY ANÆSTHESIA IN SURGERY.

BIER (Thirtieth Congress of the German Surgical Society, Berlin, April 11) said: Since I published my first six observations of medullary anæsthesia by means of the injection of cocain into the meninges of the lumbar region, 1,200 cases in which this method has been employed have been published. Its many advantages are counterbalanced by disadvantages more or less serious, and certainly of very frequent occurrence, ranging from headache, more or less persistent, to accidents that may be sometimes serious and occasionally fatal.

Though in its present form the method is not worthy of the enthusiasm with which it has been received by some of our colleagues, its merits are so important as to make it incumbent on us to try and make it inoffensive. It may be improved in the following ways:—

(1) The cocain may be replaced by some drug equally analgesic but less toxic. In a series of experiments upon 150 cats I have ascertained that the injection of a certain amount of normal salt solution suffices, probably by compression, to produce anæsthesia; unfortunately it does not do so in the human being. I have obtained well-marked analgesic effects with phenic acid, but this drug is far too poisonous to be utilised, and I have tried many others without any satisfactory results. For operations on human beings I have tried eucaine and peronine instead of cocain; but while the analgesic effect was insufficient, the secondary accidents were not entirely absent. Tropacocain is not so poisonous as cocain, but in the few cases in which I employed it, its analgesic effect appeared to be equally inferior.

(2) The solutions injected may be more diluted, a corresponding amount of the cephalo-rachidian fluid being withdrawn. In experiments in 19 cases in this way I have ascertained that an anæsthesia may be induced not so intense but more extended than by the ordinary method—it extends as high as the arms—it does no more than abolish pain without affecting the sensation of touch or of heat, and is therefore inapplicable to patients at all excitable. In 14 instances it was followed by post-anæsthetic accidents, but they were less marked than in the ordinary way.

(3) We may increase the intracranial pressure, in order to prevent the occurrence of cerebral disturbances, by impeding the diffusion of the poison to the encephalon. I have obtained this result by applying round the neck of the subject an elastic band tightly enough to cause slight cyanosis without entailing excessive distress, and this has appeared to me to considerably diminish the ill effects of medullary anæsthesia.

SCHWARZ remarked that by substituting tropacocain for cocain in Bier's method, he had obtained an anæsthesia, some-

what less profound, it is true, than that by cocain, but sufficient for the radical cure of hernia, and on the other hand there were hardly any disagreeable after-effects; there was no nausea and no rise in temperature, while in 44 cases vomiting occurred in only two, and headache in only four.

KADER (Cracow): I have employed Bier's method in 65 cases, using at first cocain, then eucaïne, and finally tropacocain. In using the last I have always been careful to extract an amount of cerebro-spinal fluid half as great again as the quantity of solution I was about to inject. The strength of my solution was from 0.5 to 1.0 per cent., and I have employed as much as 0.07 centigrammes in an adult. I have in this way obtained an anæsthesia extending as high as the neck, and allowing me to perform the operation for goitre, and the extirpation of lymphatic ganglia. I have taken care to administer digitalis beforehand, and when the pulse has been affected, to give injections of camphorated oil. With these precautions I have had no serious accidents.

v. MIKULICS (Breslau), in opening the discussion on the various methods of anæsthesia, said, after trial in his own clinic in about 40 cases, that the method of medullary anæsthesia was not so perfected or so free from danger as to be at present recommended in practice.

TUFFIER (v. *Semaine Méd.*, 1901, p. 142) has himself used this method four hundred times, and attributes Bier's failures to defective technique.

RECLUS (*ibid.*, p. 163), at the Society of Surgery in Paris, declared that the method would be excellent if it could be relied on, but the results are irregular, anæsthesia is sometimes not procured at all, sometimes is much delayed, its duration and extent is quite uncertain; the pyrexia, headache and vomitings often enough persist several days. He went on to say, "It seems quite impossible not to attribute the six deaths I recently related to the Academy of Medicine to the cocain; I have myself seen a series of cases in which the sequelæ were almost fatal."

MEDULLARY ANÆSTHESIA IN OBSTETRICS.

STONE (*Amer. Jour. Obst.*, February, 1901) has obtained absolute results in the New York Maternity Hospital in 34 parturient women by intra-spinal injections of cocain, the effects lasting from half an hour to four hours and a half. Complete anæsthesia was obtained, the uterine contractions were not retarded, but the patients were unconscious of them. A dose of one-sixth of a grain was usually as efficient as double that amount, but should complete anæsthesia not be obtained by the first injection, it will rapidly supervene on the injection of

a second one-sixth of a grain, which in the solution used is contained in 10 minims. The solution must be freshly prepared and sterilised, and perfect asepsis be maintained throughout, otherwise pathogenic organisms may be introduced. Stone does not think any injury to the nerve trunks likely to occur. The injection should not be given till the cervix is pretty well thinned out and the os dilated to about four fingers. The uterine contractions continue in their normal rhythm; the patient is unconscious of them, and must be told to bear down. Most of the cases required obstetric operations; low forceps were applied in primiparæ and multiparæ without the slightest pain, high forceps as easily as under general anæsthesia, but there was more resistance in version than under general anæsthesia. The cervix was easily dilated by the hand. Stone thinks that there is no obstetric operation that cannot be performed under intraspinal injection of cocain. He found that if $\frac{1}{100}$ of a grain of hyoscine hydrobromate was given just before the injection of cocain there was little or no headache; in his earlier cases it had been almost unbearable. Three hours after labour the temperature was up to 100° or 103° or even higher, but twelve or fifteen hours later it had fallen to normal.

J. F. J.

Dr. Stone's views are much more favourable to this method than a survey of the literature would lead us to accept.

Solutions of cocain are not easily sterilised without losing their efficiency; the introduction of the needle is not invariably easy; anæsthesia is sometimes not obtained at all and is often incomplete. Resort must after all be had occasionally to chloroform or ether, invariably so for prolonged operations. The anæsthesia is so short that not more than an hour and a half can be reckoned on, and there is therefore an undue tendency to interfere to complete delivery before feeling returns. Sensitive and excitable women are not relieved from their nervous terror of surgical interference. The sequelæ reported are frequent, often serious, sometimes prolonged, and six deaths are attributed to the method directly.

In five cases toxic effect on the child was noted (asphyxia) by Howsley and Taussig (*New York Med. Rec.*, January 19, 1901). Reference to the *Lancet*, 1900, December 29, p. 1,875; 1901, January 12, p. 137; March 3, p. 645, and March 16, p. 825. *Medical Press*, 1901, April 3; *Phila. Med. Jour.*, 1901, March 23, and a comprehensive review by Labusquière, *Annales de Gyn. et d'Obst.*, 1901, January, will lead most of our readers to concur with Dr. Smyly's note, *ante* vol. xvi., p. 207, Summary.

CONCEPTION AND ABORTION THROUGH THE BLADDER.

A. v. MEER (*Hegar's Beiträge*, Bd. iii., Heft 3) relates an interesting case of genital deformity. A girl of 23 was admitted into the Strasburg Klinik for pain, urinary troubles and discharge. Two years previously she had expelled a foetus 12 cm. long, and the forensic examiner had found the vagina wanting, but that there was access through the urethra into a cavity in which the portio protruded. This condition was essentially confirmed in the Klinik. v. Meer discusses the developmental history of such a deformity, comparing it with similar cases already published.

THE DURATION OF PREGNANCY.

F. v. WINCKEL (*Volkmann's Samml. k. Vort.*, N. F. 292-293) reports some recent investigations upon the duration of pregnancy in women which are important in their clinical as well as in their forensic aspect. In every pregnancy up to the ninth the development of the child at birth improves, in later pregnancies it deteriorates, but not below the average of first born children. The body of a new born infant is on the average 0.516 longer than that of the child born in the previous labour. It is impossible to date the commencement of pregnancy from any particular day of the last menstruation, or from a single fertilising coitus, and equally impossible from the general condition of the infant to draw any exact conclusion as to the duration of the pregnancy. It is only in case of offspring which greatly surpass the extreme limits of length and weight of normal children that we can suppose any exception to be at all probable.

The methods of estimating the length of human pregnancy hitherto proposed having proved unsatisfactory, the idea occurred to v. Winckel that greater clearness of the important question whether a pregnancy had been unduly prolonged, might be obtained by estimating the length of the gestation of children abnormally large and heavy at birth, and comparing this with the average duration of pregnancy in all uninterrupted cases. During the thirty years he had charge of the clinic at Dresden and Munich he met with 1,007 children over 4,000 grms. when born. (The male children were two and a half times as numerous as the female.) Only five were over 5,000 grms., and the heaviest was 5,320 grms. (A. Martin met with a child which, without brain or blood, weighed 7,470 grms.) v. Winckel draws a series of conclusions of which the following are the most important:—Prolongations of pregnancy, that is to say, delayed labours, undoubtedly occur; important evidence of their occurrence and of their frequency is given by the number of

children which at birth weigh 4,000 grms. or upwards; the frequency of such children in large clinics amount to 3·15 per cent., and about 14·5 per cent. of them have been 302 days in the uterus, the lower limit of their gestation being 210 days, the upper 336. The frequency of delayed labour is 2·8 per cent. The proofs now advanced that so many children (14·5 per cent.) remain more than 302 days in the womb shows that this, the German limit of legitimacy, is too low. (In England, each case is tried on its own merits, the longest gestation that has been allowed by the court is 301 days.)

HÆMATOMA OF THE ABDOMINAL WALLS IN PREGNANCY.

STOECKEL, Bonn (*Centralb. f. Gyn.*, 1901, No. 10), operated on a IV.-para who, in the sixth month, after a fit of coughing, had a large fluctuating tumour of the abdominal walls, which turned out to be a hæmatoma, and was cured by evacuation and plugging. In a second case the patient was not admitted till fourteen days after labour; she had had for three weeks a hæmatoma in her right hypochondrium, which had come on after a severe fit of coughing and was complicated by multiple superficial hæmorrhages. It was successfully treated like the other. Stoeckel can find nothing analogous in literature, but attributes the second case to a hæmorrhagic diathesis, incidentally referring to the morbus maculosus Werlhoffii. The first case is obscure; the cough can only be a secondary cause.

PREGNANCY IN A RUDIMENTARY HORN.

RIES (*Amer. Jour. Obst.*, January, 1901), reports: A patient aged 32, whose menstruation had always been normal and painless, who had had six children by natural labours, and never miscarried, after nearly eight months' amenorrhœa, during the whole of which there had been some pain on the right side, was seized on June 8, 1900, with severe pain in the abdomen, vomiting and fainting. For the next five days there were symptoms of obstruction of the bowels, with quick pulse and a temperature of about 101°, and the uterus could be felt up to two inches above the umbilicus. On the sixth day, on the right side, there was dulness on percussion, not varying with change of the patient's position; she was still vomiting and in constant pain. On opening the abdomen about two quarts of dark blood and blood-clot were found free in the peritoneum, and a slightly enlarged soft second uterus was felt to the left of the pregnant uterus. "A large median incision was made, through which the pregnant uterus easily escaped from the abdominal cavity. This uterus presented the right round ligament laterally and in front, the right ovary and tube laterally and behind, and had large

veins on its surface." It was attached high up to the left uterus by a thin muscular pedicle, and, as was proved by microscopical examination, there was no passage of communication between the two. This pregnant uterus, a right rudimentary horn, had on its anterior surface an irregular rent, nearly three inches long, which did not penetrate completely through the muscular coat. It was removed, and contained a well-formed living female foetus, four pounds in weight, which lived only a few minutes. There was no vestige of a cervix to the rudimentary horn. The ovary removed with the sac contained no corpus luteum; the ovum impregnated must have come from the left side through the peritoneal cavity, and the case is therefore an instance of external migration of the ovum. The patient made a good recovery.

J. F. J.

OBSTETRIC PRACTICE IN THE CLINICS OF PARIS, BERLIN,
LEIPSIK, DRESDEN, AND GENEVA.

KALABIN (*Centralb. f. Gynæk.*, 1900, No. 48), after visiting the above clinics, reports as follows:—

Antisepsis.—For the full bath, formerly given to every woman before delivery, a wash in running water is now substituted. For disinfecting the external genitals, Pinard uses a solution of perchloride and biniodide of mercury; Gusserow 2 per cent. carbolic acid; lysol is used by Olshausen, and also in the Geneva and Leipsic clinics; Leopold has the external genitals, as well as the abdomen, cleansed with a brush. Vaginal irrigations are not used in normal cases in any of the clinics either before or after labour. Kalabin's own preference in disinfectants is a 1 per cent. solution of lysol.

Ergot.—It is only in Gusserow's Clinic that ergot is still administered systematically.

Lying-In.—The duration of the lying-in varies from eight days in Zweifel's clinic, to fourteen at Paris, a light diet being given for the first three or four days. Kalabin finds that a liquid diet of broth, milk, coffee, and beer, for five or six days, accelerates the re-establishment of the intestinal functions without prolonging the lying-in.

New-born Children.—The cord is usually tied in two places. Leopold uses an elastic ligature. Budin washes the cut surface with alcohol. The divided cord is wrapped in absorbent cotton wool. Leopold binds the child's arms, in Paris they are left free. In *asphyxia neonatorum* Pinard inflates with a simple metallic catheter; Budin uses one with a gum tip. For *washing* the child, Pinard, Gusserow and Zweifel use vaseline; Budin and Leopold olive oil. Pinard afterwards gives a simple bath; and Olshausen uses soap.

The children's eyes are washed with a 0.75 to a 1 per cent.

solution of nitrate of silver in the Clinics of Budin, Gusserow and Leopold; Pinard uses citric acid, in spite of the irritation it produces; Olshausen citrate of silver; Zweifel the acetate of silver.

For douching the vagina, when that is necessary, glass catheters are generally employed, but Tarnier prefers a metallic one grooved on the posterior surface. The forceps used by Olshausen are Hohl's; Naegele's or Tarnier's are used everywhere else. Pinard employs antistreptococcic serum, not merely for curative but also for prophylactic effects, but the results are very questionable. For endo-uterine lavage, Leopold uses a 2 per cent. solution of alcohol in water. F. E.

APPENDICITIS IN OBSTETRIC PRACTICE.

KÖNIG, Bern (*Hegar's Beiträge*, Bd. iii., Heft 1), adds four personal observations to the recently published cases of complication of labour by perityphlitis: (1) Abortion; after three days all the signs of sepsis, fatal on fourth day; the autopsy disclosed perforation of the vermiform appendix, with an encysted fæcal abscess between the cæcum and uterus. König considers the abortion to have been secondary to the perityphlitis; (2) In a woman in the fifth month of pregnancy, to the right side of the uterus a tumour could be felt but not exactly made out. Laparotomy for peritonitic symptoms proved that the tumour consisted of the ovary, in acute inflammation, and the tube, and that there was a recent perforation of the processus vermiformis. Resection, wound closed without drainage, abortion soon afterwards; secondary laparotomy, followed in a few hours by death; (3) Perityphlitis during pregnancy, spontaneous delivery; resistance in the ileo-cæcal region, laparotomy and the evacuation of fæculent pus disclosed a perforation of the vermiform appendix; resection, drainage, death. (4) Induced abortion in the fifth month on account of symptoms of ileus and bad general condition; twins. After a transitory improvement, sudden and rapid collapse on the seventh day; putrid lochia. On laparotomy a putrid discharge containing streptococci came from a small opening in the right horn of a bicorned uterus. Vaginal hysterectomy was followed by complete recovery. In this case as there had been perityphlitis with exacerbation after conception, König believes that there had been perforation with secondary infection of the uterus, and that the perforation of the uterus had been spontaneous during childbed. He thinks that the habitual obstipation of pregnant women, as well as pregnancy and labour, has an unfavourable effect on perityphlitis, and in serious cases leads to abortion from intoxication. Labour may be fraught with danger from rupture of an abscess or traction on the appendix; the sooner, therefore, the woman

aborts, the better. As regards treatment König agrees with the French school, that once the disease is recognised immediate laparotomy is indicated; that even when the diagnosis is doubtful it is justifiable.

APPENDICITIS.

FALK, Hamburg (*Centralb. f. Gyn.*, 1901, No. 7), on the basis of three personal observations, discusses the difficulties of diagnosis, and very justly insists that in many cases it is impossible to discriminate between extrauterine pregnancy, inflammatory disease of the adnexa, and appendicitis.

MORBID ANATOMICAL CHANGES IN THE FŒTUS DEPENDING ON MATERNAL ECLAMPSIA.

ALFIERI (*Archiv. di Ostet. e Ginec.*, February, 1901), at the suggestion of Prof. Mangiagalli, has been investigating the extent to which any constant changes in the foetus might explain or support the theory of the foetal pathogenesis of eclampsia recently advanced by some authorities.

He examined six eclamptic foetus, two being twins; of the six one was born dead, one asphyxiated and past resuscitation, and the other four, though born alive, died within a few hours. One case was at term, two at eight, one at seven, and two at six months. He arrived at the following conclusions: (1) In the foetus of eclamptic mothers, particular changes in the same organs which are affected in the mother are found with a certain frequency. (2) These changes, however, are not constant, and are neither exclusive nor characteristic of eclampsia; they may be the expression of poisoning of the foetal organism, and of disturbances of circulation of various origin. (3) Without excluding the fact that the lesions of the liver, kidneys, and supra-renal capsules may have contributed to the death of the foetus, it is more probable that these changes are the expression of a particular toxic state, and that in certain cases other conditions may occur and cause death. (4) The pathological anatomy of the foetus of eclamptic mothers offers no evidence in support of the theory of the foetal genesis of puerperal eclampsia.—F. E.

EXTRAUTERINE TRANSMIGRATION OF THE OVUM; DECIDUAL REACTION OF THE TUBE AND TUBAL PREGNANCY

SIPPEL, Frankfort (*Centralb. f. Gyn.*, 1901, No. 12), in this article defends his hypothesis of ætiological connection between tubal pregnancy and extrauterine transmigration of the ovum; a theory which was altogether rejected by A. Martin (*Die Krankheiten der Eileiter*, 1895). He also contests the opinion of Webster, Mandl, and Schmit that tubal pregnancy is to be

attributed to decidual reaction in the tube, pointing out that recent researches by Kuhne, Kreisch, and Ulesko-Stroganowa make the occurrence of decidual reaction in the tube extremely doubtful; at all events we may now assert that the reaction to which the nidation of the fertilised ovum in the tube is due is not decidual, that is to say, a reaction affecting connective tissue, but epithelial, for as shown by Peters (*ante.*, vol. xv., p. 124), the primary implantation of the ovum results, not from a reaction of the connective tissue working from within towards the surface of the mucosa, but that the epithelium is the first to respond to the stimulus of the fertilised ovum, and, yielding to the individuality awakened therein by the sperma, to give way and allow the ovum to sink within it.

ANATOMICAL CHANGES IN TUBAL PREGNANCY, AT THE SEAT OF THE INSERTION OF THE OVUM.

ULESKO STROGANOWA, St. Petersburg (*Monats. f. Geb. u. Gyn.*, Bd. xii., S. 710), points out that as in tubal pregnancy there is no such great development of the decidua at the seat of the ovum as that which takes place in the womb, the chorionic villi not only develop right up to, but absolutely penetrate into, the muscular tissue and the blood-vessels it contains, which are often greatly enlarged. This gives rise, on the one hand, very frequently to hæmorrhage into the wall of the tube or into the ovum, by which the latter may be destroyed, or on the other, when the villi have reached the serosa, to such weakness of the wall of the tube that rupture easily happens. The lacerations so caused may be very slight and are not infrequently closed by clots, but free and even fatal hæmorrhage may thus take place into the peritoneum. The authoress concludes from her own investigations that lacerations of the tube are commoner than most observers allow.

SELIGMANN (*Muenchener m. Wchns.*, 1901, No. 16) on the basis of four tubal pregnancies operated on by laparotomy, the specimens of which he showed at the Hamburg Medical Society, April 2, 1901, insisted on the causal effect of injury in this anomaly. All four women had suffered eight to ten days after the last menstruation from an accident affecting the pelvis (falls on the ice).

INTRAUTERINE MISTAKEN FOR EXTRAUTERINE PREGNANCY.

SECOND (*Ann. Gyn. Obstet.*, February, 1901) reports a case he believed, in error, to be one of left tubal pregnancy, and therefore dealt with by laparotomy. The patient, whose last menstruation dated November 14, 1899, had an attack of pelvic peritonitis in the following December, her pulse on the 10th

reaching 118, with a temperature of 38.3° (101° F.). This attack yielded to treatment in a short time. On December 27 menstruation had not reappeared, there was morning sickness and some development of the breasts; the uterus was moderately enlarged, and continuous with it and extending on the left to the internal wall of the pelvis, an oblong mass was made out which led her medical attendant to diagnose an ectopic gestation. Called in consultation on December 29, Segond concurred in the diagnosis. Kept under observation, the patient on January 8 complained of abdominal pain which disappeared almost spontaneously, but soon returned, and Segond was again called in. The pregnancy was then confirmed; what appeared to be the fundus uteri was felt slightly above the pubis and directed somewhat to the right; to the left of the uterus and extending into the iliac fossa there was a globular pseudo-fluctuating tumour which could also be felt per vaginam in the left *cul-de-sac*, where a depression between the cervix and the tumour made the latter seem independent of the uterus, and thus rendered the deception more perfect. Laparotomy was decided upon, and when the abdomen was opened it was found that the uterus was latero-verted and held down by adhesions; on the separation of these adhesions it resumed its normal position. The abdominal wound was sutured and the patient left the hospital well after three weeks. Unfortunately, on March 30, seven weeks after the operation, she had severe uterine hæmorrhage in consequence of excessive fatigue and miscarried at the sixth month of her pregnancy; happily she recovered perfectly.

P. Z. H.

TUBAL PREGNANCY WITH UNICORNED UTERUS. HÆMATOCELE.

FISCHEL, Prague (*Prager Med. Wchns.*, 1900, No. 47), performed posterior colpotomy on a woman of 27, for a retrouterine hæmatocele, on account of repeated internal hæmorrhage. There was a left tubal pregnancy, but it could not be ascertained whether the copious hæmorrhage, not commonly observed with hæmatocele, was due to rupture or abortion. The left adnexa were removed and it was then found that on the right side there was complete absence of the appendages and round ligament. The right edge of the uterus lay in the median plane, the extra-median position of the portio vaginalis indicated that the uterus unicornis had not originated in a uterus bicornis unicollis but in a uterus bicornis duplex.

After the removal of the drainage a retrouterine abscess formed, attributed by Fischel to the remains of clots and secondary infection, which he has often met with after delayed

operations for hæmatocele. On this account, and contrary to the opinions of others, he advocates conservative, non-operative treatment in simple and uncomplicated hæmatocele.

RUPTURE OF THE UTERUS DURING LABOUR.

FERRARI (*Lucina*, December, 1900) relates the following case: A young woman, who stated that some days after her first labour the placenta had been extracted in a putrid state, and that she had been curetted after the abortion of her second child, in her third confinement was attended by a midwife.

A medical man was called in after two days' labour, and he, after having given ergot, found the position faulty and attempted to rectify it. His attempt caused very violent pain and collapse, and he therefore desisted and sent for Ferrari, who, on his arrival, found the patient pale and collapsed, with a pulse of 140 and a temperature of 35.4° ; the left arm of the foetus projected from the vagina. After disinfection the child was delivered by turning, during which coils of intestine were felt. The woman was so collapsed that after a fruitless attempt to extract the placenta, Ferrari desisted, injected ergot hypodermically, and plugged the vagina. Her parents would not allow the patient's removal into hospital to have the placenta taken away and the uterus attended to till a month later, when Ferrari saw her again. She had then symptoms of peritonitis, the vagina was fairly normal, the uterus was fixed, the sound passing 12 cm. and a mass could be felt in the lower part of the abdomen in front of the uterus. There was no smell or uterine discharge, and evidently the placenta was in the abdominal cavity. As the patient had been so long ill and fæcal vomiting had set in on her admission, it seemed impossible to operate.

As she did not die for eight days surgical measures might have been tried.) The laceration was found to involve the posterior uterine wall from the os internum to the fundus, and the placenta lay like a cap over the uterus. The patient's death must be attributed to peritonitis, due to the rupture of the uterus in the attempts at turning, but from the notable power of resistance displayed, the complete cessation of all internal hæmorrhage, and from the relatively mild reaction of the peritoneum during a period of over a month, it is probable that operative interference with the removal of the placenta and the suture or removal of the uterus would have saved the woman's life.

F. E.

FUNK, at the Lower Alsace Medical Society, on June 23, 1900, showed a 21-year-old primipara, delivered by forceps on April 29 of an asphytic child, without any symptoms to cause alarm on her account. The placenta was retained, and the uterus was found to be ruptured on examination, and after

vomiting the patient collapsed. Laparotomy disclosed a laceration of the lower segment in front, extending from one broad ligament to the other. The placenta was removed from the abdomen and a drain passed through the cervix, the uterine muscular tissue was sewn together and the peritoneum most carefully stitched over it. After discussing eighteen cases of uterine rupture in labour, eleven in and seven outside the clinic, Funke concludes that in private practice, even under unfavourable circumstances, laparotomy is the most rational and hopeful mode of treatment.

THE TREATMENT OF RUPTURE OF THE UTERUS BY OPERATION AND OTHERWISE.

KLIEN, Dresden (*Archiv. f. Gyn.*, Bd. lxii., H. 2), gives in this article a critical study based upon 367 cases published in the last twenty years, and 14 new cases. Of 347 uncomplicated ruptures 149 were operated upon with a mortality of 44 per cent., 198 were not operated upon, and 52 per cent. died. From the latter category should be deducted those cases which were not treated in any way, or were so only by a compressing bandage, and in which the mortality was 73 per cent., while those cases treated without operation, but by drainage, plugging, or irrigation, the mortality was only 39 per cent. During the last ten years the results of operative treatment have improved so much as to show a mortality of only 37.5 per cent. In practice Klien recommends drainage by an india rubber tube, condemning the application of gauze to the rupture itself; should the hæmorrhage be dangerous, and only in that case, he advises operation on the spot, as soon as possible (16 per cent. mortality). Lacerations of the vagina make the prognosis unfavourable, those of the bladder more so still.

TYMPANIA UTERI.

GESSNER (*Muenchener m. Wchns.*, 1901, No. 11), addressing the Erlangen Medical Society, January 20, 1901, said: Few obstetric text-books tell us much about tympania uteri. It is generally said to be rare, and its prognosis to be very difficult, but it is undoubtedly more common than is generally supposed though it is so hard to recognise at the commencement that only marked cases are noticed. Since Gebhard's investigations the old idea that it was to be referred to the entrance into the uterus of air carrying germs of putridity cannot be accepted, and it far more probably is due to infection by the *B. coli*, though some pathologists attribute it to anærobic germs; stinking liquor amnii may be considered a preliminary condition to tympany.

Among the clinical symptoms the fever, in the majority of cases, is to be attributed to an intoxication of the system by metabolic products of the micro-organisms contained in the liquor amnii. This fever accordingly sets in some time after the discharge of the waters, and decreases on the emptying of the womb. In a minority of cases, when not merely germs of putridity but pathogenic micro-organisms have been introduced into the genitals, serious pyretic affections supervene during childbed. Apparent air embolism, associated with uterine tympany, may be attributed to sapræmia, originated by anærobic germs. If the uterus be greatly distended by gas, weakness in contractions may prolong labour and the uterine atony may then continue in the third stage of the labour. The earlier recognition of tympany will render such cases less frequent, as also instances of advanced decomposition of the fœtus, which formerly were not uncommon.

Tympania uteri is more often met with in primiparæ on account of the longer duration of labour, and is favoured by premature rupture of the membranes and by contracted pelvis. These statements are based on fifty-five cases, twenty-two being personal observations, and it appears from them that the prognosis for the mother has greatly improved, for whereas the mortality according to previous statistics was 50 per cent., it is now only about 12 per cent.; moreover the foetal mortality has also diminished.

No definite conclusion as to the course of childbed can be drawn either from the elevation of temperature or from the rate of the pulse. Any rigor in connection with delivery is an evil omen and is always followed by grave puerperal mischief.

The treatment of tympania uteri resolves itself into delivering the woman as soon as possible with as little interference as can be managed. Contrary to general opinions, the washing out of the womb with antiseptics after delivery has latterly been abandoned, as it was repeatedly followed immediately by a rigor and subsequent serious puerperal mischief.

SEVENTY CASES OF DIFFICULTY IN EXTRACTING THE FŒTAL SKULL, OR PARTS OF IT, FROM THE UTERUS.

NEUGEBAUER, Warsaw (*Centraltb. f. Gyn.*, 1901, Nos. 7 and 8, *reprint from the author*), was led to collect these cases in consequence of a charge brought against a barber of having in a difficult labour caused the death of a woman by tearing the body of the child apart from the head. The cases were many of them reported to the author verbally or by letter, and are well worth perusal in the original, and he hopes that they may lead to the publication of similar ones, and to a discussion at one of the approaching Medical Congresses of the question of "Re-

tention of the foetal skull in the uterus, its prophylaxis and treatment."

The most important English reference is to Dr. Purslow's (*Brit. Med. Jour.*, 1895, 1, 129) paper at the meeting of the British Medical Association at Birmingham, in 1894.

DIFFICULT EXTRACTION OF THE HEAD.

KNAPP (*Muenchener m. Wchns.*, 1901, No. 17) supplements the above with 16 cases from the Prague Clinic, all after decapitation. Two of the mothers died; one woman, after the trunk of the foetus had been removed, was brought a long railway journey of some hours, the skull was perforated and extracted with great difficulty, several applications of the cranioclast being necessary; she died four days post partum. The other fatal case had been nineteen hours in labour before admission, and the waters were said to have come away a day before the pains began; several fruitless attempts at version had been made, the child presenting in the first dorsal transverse position with prolapse of the right arm; there was a laceration of the vagina and perineum. It took three hours to extract the head, and the woman, who had albuminuria and extensive superficial oedema when admitted, died, under symptoms of pulmonary oedema, of heart failure one hour after the delivery.

As Knapp remarks, the extraction of the retained head is a task that may have to be undertaken by a man already exhausted by measures which in the previous course of the labour have severely taxed his powers of endurance, it may be extremely difficult to execute, or even be impossible without assistance. The situation cannot be met in any typical way, but all the available resources of obstetric art may have to be called on for measures to suit a particular case. Even then extreme contraction or rigidity of the soft parts (vagina, os uteri), abnormal size or solidity of the foetal skull, deformities of the pelvis or accidental limitation of room by tumours of the pelvic organs, may render the extraction of the child's head *per vias naturales* so difficult, that, as in ten of the cases collected by Neugebauer Cæsarean section may have to be performed.

RETENTION OF THE PLACENTA.

AHLFELD and STAEBLER, Marburg (*Monats. f. Geb. u. Gyn.*, Bd. xii., S. 671), discussing the clinical aspects of retention of the placenta opine that when the third stage of labour has been properly conducted the failure of any part of the secundines to come away depends more often upon firm adhesion than upon retention proper. These accidents generally result from irregular conduct during gestation or labour, and in from 5·8 cases in 1,000 during the second half of pregnancy. Adhesions of the

afterbirth are relatively frequent in placenta prævia, tympania uteri, eclampsia, nephritis, and with placenta of irregular shape, and are apt to be repeated in the same woman. In healthy women when, after labour has been properly conducted, the loss of blood necessitates artificial extraction of the placenta, the adhesions generally affect small portions of the placental edges and are not infrequently situated near the insertions of the tubes. Primary atony of the uterus seldom leads to persistent attachment of any part of the placenta. Secondary atony is a common sequel of serious hæmorrhage when improper attempts have been made to detach the placenta. Retention of the placenta, without adhesion, is most likely to occur when the child has been rapidly delivered through an imperfectly dilated cervix without causing laceration, or when a stricture of the canal has been induced by improper internal or external interference. As in certain cases retention of the placenta may be predicted with some probability, midwives should in such be instructed to send for an obstetrician. Introduction of the hand into the recently emptied womb, provided that the hand and vagina are carefully disinfected, and the woman is not already feverish, causes but slight elevation of temperature. The dangers can be further diminished if the hand is not carried to the fundus, and if the hand be cleansed again before each repeated introduction. Gloves are superfluous to one who understands how to disinfect his hands. On the other hand, when there is any endometritis purulenta (pyretic labour, tympania uteri) the introduction of the hand is a dangerous measure; further observation will show whether in such cases it may not be better to insert an antiseptic plug and wait for the uterus to empty itself. The indications for hysterectomy in puerperal sepsis are so hard to define, that it is questionable whether it can be said with any probability in any case, that the removal of the womb will have any favourable effect upon the course of the disease.

KUNZE (*Centralb. f. Gyn.*, 1901, No. 5) reports a case of sudden delivery in a II.-para of 24. The woman stated that while standing in the kitchen she was suddenly seized by a strong labour pain. The waters were discharged, and she noticed that a large object escaped from her genitals. On his arrival Kunze found a child weighing 2,765 grms. on the floor, the cord was ruptured but not bleeding. The child was alive and uninjured. The case is of forensic interest.

Experiments made by Slight, Malcolm and Frost, in Professor Schäfer's laboratory at Edinburgh, seem to show that the medullary substance of the suprarenal capsules of ox or sheep has the property of inducing energetic muscular contractions in the

uterus, gravid or otherwise, to a much greater extent than the substances usually employed with that object. The active principle is not affected by the gastric juice, so the administration may be by the mouth, but in case of post-partum hæmorrhage more immediate effect would be gained by injecting the substance into the uterus. For this purpose an infusion of 30 grammes of dried medullary substance in 500 of water may be employed. The liquid having been boiled, 60 grammes of calcium chloride may be added for styptic effect, and the solution may be injected at a suitably high temperature.

Professor Schäfer has found that in cases of post-hæmorrhagic shock, or arrest of the heart's action in narcosis, an intravenous injection of this extract will rapidly re-establish the action of the heart, even after all circulation seems to be stopped. He recommends for this purpose a warm decoction of the medullary substance in 9 per cent. per mille—a quantity representing 5 grammes of the dry extract—may be employed and repeated if necessary.

INDUCTION OF ABORTION FOR CHOREA AND LEUKÆMIA.

MERTTENS, Düsseldorf (*Monats. f. Geb. u. Gyn.*, Bd. xii., Heft 3), successfully induced abortion in the fifth month in a III.-para of 23, who, till attacked by chorea so severe as to endanger her life by interfering with her taking food, had been in good health.

In another case, a VI.-para, leukæmia, accompanied by great œdema, occurred in the third month. The woman was extremely pale, her spleen much enlarged and many groups of her lymphatic glands were greatly swollen; there was also a trace of albumen in her urine. The case seemed almost hopeless, but as a last resource he thought it right to try to empty the uterus, but the woman died soon after the introduction of the laminaria.

THE INDUCTION OF LABOUR IN CONTRACTED PELVES BY MEANS OF THE INTRAUTERINE BAG. COLPEURYISIS AND METREURYISIS.

Bosse, Königsberg (*Centralb. f. Gyn.*, 1900, No. 30), reports upon twenty-eight cases of labour in which the india rubber bag was employed. Braun's colpeurynter was employed; at the same time the author attributes greater advantages to Champetier's balloon. In the description of the method of introduction and application, the most important point is the distension of the bag, which must be carried out in stages, and is effected with a piston syringe; it must not be filled too rapidly. If at once completely distended energetic contractions come on very soon, the parts are quickly dilated, but after the bag is extended immediately contract again. Gradual dilatation is more in

accordance with physiological conditions, and the colpeurynter or metreurynter, when slowly distended, is the best substitute for the bag of membranes. Kolpeuryisis was employed in sixteen, metreuryisis in twelve cases. It generally took 500 g. to fill the bag, occasionally 650 to 700 g. The author does not recommend the method for general practice, as difficulties are sometimes encountered which make hospital treatment desirable.

MEYER-RUEGG, Zurich (*Corr.-blt. f. Sch. Aerzte*, 1900, No. 16), condemns Gessner's precept to perforate and extract in all cases of eclampsia. Colpeuryisis, or rather metreuryisis, of which he gives a short sketch, is too little practised. He describes the *technique* (he uses a simple iron staff with a blunt end for the introduction), the contra-indications (over-distension of the lower uterine segment and spasmodic contraction of the womb); the less elastic and therefore better balloon of Champetier de Ribes as modified by Müller (drawing); finally, the tulip of Schwarzenbach (drawing), which is hard, but takes less room and therefore presses the presenting part less backwards and does not endanger the placenta.

KRUMMACHER, Berlin (*Berliner k. Wchns.*, 1901, No. 11), reports seventeen cases from Gusserow's Clinic. He gives the details of the *technique* of introducing the inelastic bag, which varies according as the cervix is open or closed. Indications for metreuryisis are given by all complications of labour which necessitate prompt delivery, especially in eclampsia, as a preliminary for prophylactic version, and in prolapse of the cord. A necessary condition for carrying out the proceeding is that the presenting part should not have descended so low as to leave no room for the bag.

AHLFELD, Marburg (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft.), has found that since employing the bag the number of children which lived has decreased from 60·4 per cent. to 44·8 per cent., and on investigating the causes of this deterioration, that transverse and oblique positions, and also strictures of the lower part of the uterine canal, have been far more common. The faulty positions are to be attributed to the presenting parts being forced aside by the bag, the strictures to the fact that after the removal of the bag the inner os has again contracted like an elastic membrane.

SYMPHYSEOTOMY AND CÆSAREAN SECTION.

BARONE (*Archiv. d'Ostet. Gynec.*, February, 1901), after a comparative study of the results of these operations arrives at the following conclusions: (1) In spite of the recent success of Cæsarean section, the mode of operative interference in deformed pelves must be subordinated to the degree, and in some

cases also to the nature of the deformity. (2) Although the latest statistics (Rubinrot and Abelly) give the mortality for Cæsarean section as 11 per cent. for the mothers, and 7·68 per cent. for the children, while for symphyseotomy the maternal mortality is 12·5 per cent., and the foetal 14·35 per cent., these figures must not be accepted absolutely, but with selection and elimination in favour of symphyseotomy, a point of great importance in practical obstetrics. (3) The complications and post-operative consequences of grave and dangerous character laid to the charge of symphyseotomy, should not be set down to the operation itself, but to the fact that the minimum for the C.V. is, by our school, set too low, or to the operation being performed too late, or after imprudent attempts have been made to deliver, or especially to negligence in the antiseptic precautions indispensable for success. (4) Conservative Cæsarean section, in spite of the improvements in its *technique*, is an operation beyond the scope of most surgeons engaged in private practice, symphyseotomy is technically more simple, and does not require such extreme precaution to ensure absolute asepsis and antisepsis, which in the former operation are indispensable for the protection of the mother. In private practice, therefore, symphyseotomy is preferable to Cæsarean section. (5) Cæsarean section, as an absolute indication, should be admitted only in deformed pelves with a true conjugate of less than 67 mm.; with a C.V. from 67 to 80 or 81 mm., the preference should be given to symphyseotomy. (6) Notwithstanding much that has been asserted to the contrary, symphyseotomy, well performed within the above limits and executed aseptically in a non-infected patient, ought not to have any such mortality, maternal or foetal, and any deaths should be attributed to some special conditions complicating the case, or to the operator, but not to the operation.

F. E.

CÆSAREAN SECTION.

BIGNANI (*Archiv. di Ostet. e Ginec.*, February, 1901) reports seven cases of Cæsarean section performed in the Cremona Clinic in the last thirty years as a contribution towards the correct solution of the indications in cases for which this operation is generally done; four were Porro operations, all died except the last, a Cæsarean section with sagittal incision of the fundus, which was done by Bignani himself; five of the children were dead when delivered, and the other two died within a few months. This mortality was probably due to the imperfect knowledge of antisepsis before 1880, and of asepsis up to 1890. He concludes as follows: (1) The exceptional rarity of Cæsarean section in the Cremona Clinic, compared with the extraordinary

series of embryotomies, craniotomies and cranioclasmus during the same period, offers a remarkable contrast, and gives the only correct explanation of the results. These were such as to render the operators very despondent in other cases in which, compelled to perform Cæsarean section, they saved the same number of mothers and all the children. (2) The unhappy results of the two Saenger and four Porro operations are, without considering the gravity of the cases and the sad state of the hospitals, accounted for by the fact that they were necessarily performed without the true and rigorous asepsis now secured. The desolating statistics of other maternities and special departments of general hospitals are to be attributed to the same cause. (3) In rupture of the uterus with partial or complete escape of the foetus into the abdominal cavity, the Porro operation, with extraperitoneal treatment of the stump, should be adopted. (4) In hæmorrhage from the placenta, which cannot be stopped by ordinary obstetric means, conservative or radical Cæsarean section is the best treatment for the mother and by gaining time may save the child.

F. E.

WILLIAMS (*Amer. Jour. Obst.*, March, 1901) records: The first case was a rachitic dwarf, with a contracted pelvis and eclampsia. She was admitted into the hospital in a comatose condition, and had convulsions for twelve hours. The conjugata vera measured two inches. There was 33 per cent. of albumen in the urine, and the fundus was four inches above the umbilicus.

The A.C.E. mixture was used as the anæsthetic, but very little was required. Three pints of salt solution were given subcutaneously on the table, two pints more at midnight, and repeated every six hours for three days. No convulsions occurred after the operation. In sixteen hours she opened her eyes and began to talk, and her ultimate recovery was good. The baby weighed 7.75 lbs.

The second case was a woman aged 37. A movable solid tumour filled the upper half of the abdominal cavity, pushing up the diaphragm and causing dyspnoea. In the lower half of the abdomen there was another tumour of almost equal size, containing a living child. The larger tumour, a stalked subperitoneal fibroid, was removed by myomectomy. Two interstitial fibroids were then found below the foetus, and blocking up the pelvis. The child was therefore delivered by Cæsarean section, and the uterus removed by supravaginal hysterectomy. The mother made a good recovery, and the child is living.

J. F. J.

DYSTOCIA IN A BICORNED UTERUS.

FOCHIER, Lyons (*Acad. de Méd.*, April 23, 1901), exhibited a bicorned uterus removed by abdominal supravaginal hysterectomy; one of the cornua was empty, the other contained the head of a foetus of rather more than six months, and a placenta with the membranes still attached. The patient from whom the specimen had been removed was a vigorous peasant woman of 37, who had previously had one miscarriage. It had been found impossible to deliver her by the vagina. The uterine tissue of the empty horn, and at the level of the supra-vaginal section, was so remarkably thick as to lead Fochier to believe that in case of retention of the foetal head, at all events, there may be sometimes a malformation of the uterine muscle.

A SERIES OF TEN SUCCESSFUL CASES OF CÆSAREAN SECTION.
By W. J. SINCLAIR, *Lancet*, 1901, vol. i., p. 158.

This paper records ten Cæsarean sections without loss of either mother or child. The first of these operations was performed in 1890 upon a X.-para aged 38 years, suffering from rapidly advancing osteomalacia. The uterus and appendages were removed with a very satisfactory result. Porro's operation was also performed upon a deformed dwarf who had never been able to walk in the ordinary manner. Hysterectomy with intra-peritoneal treatment of the stump was the operation chosen in the case of a II.-para with a C.V. of from 2.5 to 2.75 inches. In the remaining cases conservative operation was adopted, the uterine wound being closed by deep and superficial sutures, but no attempt being made at peritoneo-peritoneal approximation. One patient was the subject of old tubercular disease; her left hip was ankylosed and the thigh flexed across the abdomen, and there was extreme scoliosis. In another case labour was obstructed by a solid ovarian tumour which blocked the pelvis and was removed after the child had been delivered. The other patients had contracted pelves, one being a rachitic dwarf.

In the first five sections drainage was employed, but it was dispensed with in the remaining operations, two of which were pre-arranged and performed at a definite time without waiting for the onset of labour. In such cases Professor Sinclair has the membranes punctured with a special instrument just before the operation. The escape of the waters lessens the uterine tumour and facilitates the delivery of the uterus through the abdominal wound. This was done, in every case, before incising the uterus, and was found to allow a cleaner and more methodical suturing of the wound than is possible if the uterus is allowed to remain within the abdomen. An elastic tube was always passed round the uterus so as to be ready to compress the uterine vessels in

case of emergency. The uterus was always kept warm by being wrapped in cloths wrung out of sterilised hot water, and the bowels protected by a packing of sponges. The increase in the length of the incision necessary when the uterus is to be pulled out of the abdomen is not great, provided that the membranes have been ruptured and the waters allowed to escape. The wound in the uterus should be large enough to permit the rapid extraction of the foetus without laceration of the wall of the organ. The four-inch incision of some authors is insufficient to allow this to be done with safety. The incision was always made in the middle third and in the median line. As involution goes on the uterine wound sinks, comes in contact with and adheres to the abdominal wall, and on examination after recovery the uterus was always found exactly in the position it occupies after a successful ventrofixation. Professor Sinclair objects to the transverse incision at the fundus, introduced by Fritsch, because it leaves the sutures in such a position that they inevitably come into contact with the bowels and omentum, and such contact must result in adhesions with possible complications. A still more serious danger is that this fundal incision may lead to the adhesion of the fundus to the parietes before involution has advanced far, so causing painful dragging upon the site of adhesion. It is interesting to note that in those cases in which the uterus was removed no milk appeared in the breasts and no sugar was found in the urine during recovery. The contrary was observed in several of the cases in which the conservative operation was performed. In referring to a quotation from a paper on "Cæsarean Sections in Manchester," published fifty years ago, Dr. Sinclair says: "I should never, I believe, resolve on the operation with a light heart, but constantly, as if it was one's first case, see to it that the operation was 'early and properly performed' and that the after-treatment was to the best of my judgment 'judicious.' It is only, I believe, in this way that the indications for the operation can be so extended and its results so improved as to banish from practice some of the remaining opprobria of the obstetric art." Referring to craniotomy, the author asks "how long into the twentieth century will the obstetric art continue to act as procuress to invincible ignorance and brutish self-indulgence?" In case 10, for instance, craniotomy was done on a mature foetus, then on twins, and again after the induction of premature labour at seven months! An invaluable feature of this paper, which cannot be reproduced in an abstract, is the careful account of the nursing and after treatment in each case. For these details we must refer the reader to the original paper, as they are most instructive and afford material for much thought.

W. E. FOTHERGILL.

CÆSAREAN SECTION FOR CANCER OF THE RECTUM.

BALDY (*Amer. Jour. Obst.*, January, 1901) reports a case of Cæsarean section performed on a woman seven and a half months pregnant, with a proliferating malignant growth in the rectum. She suffered from constant pain, bearing down in the back and rectum, vomiting and constipation. Delivery through the pelvis would have inflicted additional pain and distress and shock by injuring the rectal growth. The child weighed three pounds and five ounces, and up to the time of reporting the case had flourished in an incubator.

J. F. J.

GESSNER lately reported to the Erlangen Medical Society (*Muenchener m. Wchns.*, 1901, No. 11), a Cæsarean section performed by him *in mortuâ*. The young primipara had albuminous urine and had died in her first fit of eclampsia. The fit itself was not observed. The operation was done ten minutes after her death; the asphytic child was resuscitated after two hours' exertion and was discharged healthy. After the removal of the child the uterus contracted firmly and the placenta seated on the posterior wall was forced into the wound. The womb was taken from the corpse and hardened, and a section through the posterior wall proved that there was no elevation of the central portion of the placenta such as Schultze has described; on the contrary the placenta, though bulging out in the centre, was still everywhere attached to the uterine wall.

AUTO-CÆSAREAN SECTION!

LÖFFLER, Zenica (*Wiener m. Wchns.*, 1901, No. 10), relates that an osteomalacic Mahometan woman of 42, who had been ill for some months and feared she might die before the child, with which she was pregnant, should be born, opened her own abdomen and uterus with a pocket-knife. After the delivery of the child she became unconscious, and her daughter, a girl of 13, took charge of it and the after-birth, and then, at her mother's bidding, sewed up the abdominal wound with a rusty needle and hempen twine. Both mother and child survived, and Löffler had an opportunity of inspecting the 16 cm. long wound, healed by first intention. The rest of the story he heard from the woman herself, and has no reason not to deem her worthy of belief. Since delivery her osteomalacic troubles are much better.

THE PRE-LABOUR BATH A SOURCE OF INFECTION.

STICHER, Breslau (*Centralb. f. Gyn.*, 1901, No. 9), in connection with Stroganoff's recent article (*Ante*, vol. xvi., Summary, p. 210), refers to one of his own (*Zeits. f. Geb. u. Gyn.*, Bd. xlv.,

H. 1.), in which he came to similar conclusions. While there is no chemical proof that the bath water finds its way into the vagina, he obtained bacteriological evidence of the invasion of the *B. prodigiosus* into the vaginal secretion. He does not, however, discard the preparatory bath, except for such operations as Cæsarean section, which must be aseptic. For labour cases an efficient antiseptic may be added to the water in the bath, or the vagina be protected against the invasion of bacteria by a tampon soaked in an antiseptic. Other sources of infection than the bath may be found in digital exploration and the drench.

PERIPHERAL GANGRENE OF THE UTERUS.

BECKMANN (*Zeitschrift. f. Geb. u. Gyn.*, Bd. xlii., S. 423), points out that puerperal gangrene of the uterus, generally described under the name of *metritis dissecans*, is more often met with, especially in private practice, than is generally supposed. As a matter of fact it is seldom diagnosed, for a fragment of tissue expelled from the uterus is too readily accepted as placental *débris*. His opinions, based upon forty observations, twelve of which are given in detail, are that this uterine gangrene is an infectious malady due to the invasion of streptococci, which, penetrating deeply along the course of the blood-vessels and lymphatics, lead to extensive thromboses, followed by the necrosis of the corresponding tissues. The affection begins during or shortly after delivery; the temperature seldom exceeds 40.5° C, but the pulse is rather rapid. Characteristic symptoms are, a pronounced delay in the involution of the uterus, the volume of which is increased by œdema due to the impeded circulation, and in the cavity of the organ a prominence of the uterine wall. The discharge, at first bloody and very abundant, soon becomes blackish in colour and malodorous, and about the twentieth day purulent.

The necrosed tissue is generally eliminated in the fourth week, and sometimes in the form of a complete sac corresponding to the form of the uterus, and containing muscular tissue, in other cases in fragments, long or ovoid in shape. Immediately after its expulsion the temperature falls and the sickening smell decreases considerably. Occasionally in the course of the malady perforation may take place and lead to fatal peritonitis, or the patient may sink under the symptoms of general septicæmia, but in the absence of complications they generally recover; only eleven of Beckmann's cases were fatal, *i.e.*, 27.5 per cent.

Treatment has little effect on this affection. The author recommends the support of the system by a nourishing diet

and large doses of alcohol; *locally* he advocates expectation, and particularly deprecates as dangerous and uncertain in effect the use of intrauterine injections.

PUERPERAL INFECTION AND MARMOREK'S SERUM. BY R. LABUSQUIÈRE. *Annales de Gynécologie et d'Obstétrique*, March, 1901.

The bacterial diagnosis of puerperal infection is a matter full of difficulty; the streptococcus is the micro-organism most frequently observed, but very many other germs may take part in the infection, and the virulence of the streptococcus itself varies enormously in different experimental results. To obtain recognition of the benefits of seropathy it is most desirable that the bacterial diagnosis should be so simplified that it can be made in every case, that a suitable classification should be adopted and that we should have at our disposal a serum at once effective and innocuous.

Savor has treated by serum fifteen cases in which the streptococcus had been isolated from lochia collected from the puerperal uterus, and one case of erysipelas in a puerperal woman. In six instances there was complete failure, and while the results were doubtful in five, in five only did they seem to be favourable, and one of these was not a serious one. Nevertheless, he has hope for this method of treatment, and recommends that further investigation should be made.

Blumberg has treated twelve cases by the serum of Marmorek; all the cases were severe, and in all but three a bacteriological examination of the lochia was made. He directed his investigation to (1) the curative effects of the treatment; (2) the secondary effects of the serum; (3) the conditions which might prevent such secondary effects. One patient recovered from infection by anærobic diplococci, but the serum did not appear to have any influence on the course of the disease. Four cases were mixed infection with streptococci; two died; on one other the serum seemed to have no effect; the fourth appeared to improve immediately after the injection, the temperature from 39° to 39·6° became normal in three days. Two cases of pure streptococcic infection recovered, and in one of them the beneficial effect of the serum was particularly marked; after the injection on two consecutive days of 20 grms. of serum, the temperature fell to normal, having previously been 40° (104° F.); the injection having been omitted it rose again to 40·0°, but returned definitely to normal after the injection had been resumed for three or four days. In two cases the lochia were found sterile; they both recovered, the temperature having become almost or quite normal a day or two after

the injections had been commenced. In the cases in which no bacterial examination had been made, the temperature in two became normal after injections of serum in three or four days, the remaining one had begun to improve before the serum was injected.

Blumberg infers that the serum is beneficial in pure streptococcic infection, but that no definite conclusions can be formulated on the small number of cases hitherto recorded. He believes, however, that the secondary effects, local and diffuse, sometimes met with after serum injections, can be prevented by making sure that the whole of the serum reaches the subcutaneous cellular tissue and that not a particle of it, however small, is inserted into the integument.

P. Z. H.

SEROTHERAPY.

SCHARFE, Halle (*Beiträge z. Geb. u. Gyn.*, Bd. iii., S. 226), reports twenty-three cases treated by antistreptococcus serum sent by Marmorek himself to Fehling, and concludes that this treatment has no demonstrable effect upon the course of the puerperal infection. No serious bad results were met with: the anamneses only recount one abscess at the seat of injection and a few instances of erythema. Even as regards diagnosis, the serum has, according to Scharfe, no value; on the other hand it seems to give some help in the prognosis; patients in whom the temperature and pulse fell rapidly from twelve to thirty-six hours after the injection generally got well.

THE DIPLO-STREPTOCOCCUS IN PUERPERAL PERITONITIS.

WALTHARD, Bern (*Monats. f. Geb. u. Gyn.*, Bd. xii., S. 688), considers the diplo-streptococcus to be a pathological micro-organism and no saprophyte; like the *S. pyogenes* of saprophytic character it is to be found in dead media of nutrition, in the vaginal secretion of healthy pregnant women, in the lochia of healthy puerperæ, in the intestinal canal of healthy men. As a factor in inflammation of a parasitic nature the diplo-streptococcus is met with, in pure cultures in inflamed tissue of the endometrium and the tubal mucosa, and in the exudats of endometritis, salpingitis, and oöphoritis, as well as in those of peritonitis, pleuritis, and pericarditis puerperales. It may penetrate along the tube from the endometrium and give rise to fatal peritonitis without entering the lymphatic or blood circulation of the uterus; such peritonitis may be distinguished from that due to the *S. pyogenes* by its stealthy course and by the longer duration of the illness before it assumes the character of a general suppurative peritonitis.

PUERPERAL SEPTICÆMIA AND SURGICAL INTERVENTION.

The question of surgical intervention in the treatment of puerperal septicæmia has been recently under discussion at the Paris Society of Surgery (*Semaine Médicale*, pp. 76, 84, 93, 104).

ROCHARD reported five cases, all fatal. In the first there were several collections of pus, but after cleaning out the small pelvis he left the uterus; in the other four he removed the organ three times by laparotomy, once by the vagina. None of the patients recovered, but he considers that these unfortunate results were due to delayed intervention, and continues a firm partisan of hysterectomy in the treatment of puerperal infection, with the proviso that the intervention must be prompt. Personally he prefers the abdominal route as permitting the direct examination of the lesions, and because the friable state of the womb after delivery is unfavourable for vaginal operation. Bazy said he had twice removed the uterus for puerperal infection, once by the vagina and once by the abdomen, but both cases died. Second concurred with Rochard that the vaginal route after confinement was extremely difficult, and the abdominal one, if either, to be preferred. Terrier said that the only successful case of hysterectomy for puerperal infection in his service had been one in which the operation had been performed a few hours after the admission of the woman, who had not been many days ill.

Tuffier had collected 45 cases of surgical intervention for puerperal infection, the results being 28 recoveries and 17 deaths. There were 40 cases of hysterectomy, 22 abdominal with 15 recoveries, and 18 vaginal with 10 cures.

Chaput considered vaginal hysterectomy to be contra-indicated by the friability of the uterus, that an abdominal operation would only aggravate the danger of the infection. It was better merely to curette and disinfect the uterus, and by so doing he had had excellent results in cases that had appeared to be desperate. Abdomino-utero-vaginal drainage might, sometimes, be usefully added.

Ricard said that in regard to surgical measures a clear distinction must be drawn between two categories of very different cases. In the one there is a local lesion indisputably demanding some surgical intervention appropriate to the particular lesion; in the other there is a generalised infection, and we have to determine not only the indication for intervention but also its nature. Our statistics comprise 2,640 cases of sepsis with 105 deaths. The temperature in 851 of the 2,640 exceeded 39°0', and nevertheless, the death-rate of the 851 was only 13 per cent. The mortality in our maternities in pronounced puerperal sepsis may be said to oscillate somewhere about 10 per cent.

without any other intervention than that currently in use. I have not been able, after all the observations I have examined, to discover any clinical sign, either in the patient's general state or in local conditions, which can be accepted as an indication for hysterectomy, and therefore, considering the results obtained by the ordinary treatment, do not hesitate to declare that, as long as we are unable to formulate such indication, we are not justified in performing hysterectomy for puerperal infection.

Poirier, Quenu, Regnier and Segond were all unfavourable to hysterectomy.

Faure, in a communication reported on by Rochard, stated that he had performed hysterectomy for puerperal infection in seven cases, and always by the vaginal route. To obviate the difficulty arising from the friability of the uterus he recommended the use of cyst forceps rather than volsella; by so doing he had been able to terminate his operations very rapidly, in from four to fifteen minutes. Six of his patients, operated on, so to say, *in extremis*, he had been unable to save, but the seventh recovered perfectly.

FATAL HÆMORRHAGE FROM THE UMBILICAL CORD.

PAULSEN, Ellerbeck (*Münchener Med. Wchns.*, 1900, No. 46), reports a case of spontaneous hæmorrhage from the umbilical cord, fatal on the tenth day after birth. The child was a bleeder, and loss of blood from the intestines contributed to the fatal result. He remarks: spontaneous hæmorrhage from the umbilical cord is very uncommon, but from its bad prognosis is a most alarming occurrence. Its cause as yet is not quite clear, but it seems to be a consequence of three different diseases; acute fatty degeneration of the new-born (Buhl's disease); congenital syphilis, and then generally in prematurely-born children; and general sepsis. It has more rarely been met with in hæmophilia; Grandidier, among 224, found only 11 cases in which such hæmorrhage was to be attributed to hæmophilia.

BALIN, Odessa (*Centralb. f. Gyn.*, 1900, No. 43), records a case dying within two hours of birth. The mother had aborted three times and was possibly syphilitic, but the child showed no symptom of the disease. The cord had been tied by the midwife, the bleeding was not noticed for some time. The greatest care should be paid to the proper ligature of the cord—and the new-born child should be kept under observation.

MAMMARY GLAND. THE BACTERIAL FLORA OF THE NEW-BORN INFANT'S MOUTH IN RELATION TO MASTITIS.

KNEISE, Halle (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft 1), has made a careful investigation of the bacterial flora in the mouths of fifty infants, searching particularly for gono-

cocci and the bacteria of suppuration. In the course of the first day the number of micro-organisms was considerable.

Of the purulent bacteria, staphylococci were found in 100 per cent., streptococci in 73·73 per cent. All children delivered *per vias naturales* were born with bacteria in their mouths. The infection of the mammary gland often comes from this source. Pathogenic germs were found in one-half of the cases, even when the vagina had not been touched (for examination), and the flora of the vagina were identical with those of the infant's mouth, into which they had found their way, owing to swallowing, or contractions of the vaginal muscular tissue. Prophylaxis is the best treatment of mastitis.

HYPERTROPHY OF THE MAMMARY GLAND.

DONATI, Innsbruck (*Centralb. f. Gyn.*, 1900, No. 35), reports a case of the above in a 19-year-old primipara, in whom on account of serious nephritis, labour was induced at the eighth month. He reproduces a photograph taken three weeks after delivery, and the dimensions of the breast, the clinical conditions and anamnesis led him to diagnose a true hyperplasia of the mammæ. No treatment was required, as the general health and capabilities were not affected. He has not been able to find more than twenty-three cases of this anomaly described in literature.

NOTES.

WITH very great regret we have heard of the death of a distinguished Fellow of the British Gynæcological Society, Dr. Horace Tracy Hanks, Emeritus Professor of Diseases of Women, New York Post-Graduate School, who was President of the New York Obstetrical Society in 1887-89.

CAGLIARI.—Dr. Pintor Pasella, formerly assistant to Professor Giordano at Turin and acting professor at Cagliari, has died at Florence. He was the author of a noteworthy monograph on "Pelvic Hydatids" and of several obstetrical works. Professor Remedi has been installed as teacher of Obstetrics and Gynæcology in the Royal University.

CHICAGO.—Dr. Frederic C. Schaefer has been appointed Gynæcologist to St. Elizabeth's Hospital and Surgeon-in-chief to St. Hedwig's Hospital.

DR. J. HALLIDAY CROOM, whose period of office as physician for diseases of women in the Edinburgh Royal Infirmary has expired, has been unanimously elected Consulting Gynæcologist to that institution by the Board of Managers, who have recorded their grateful thanks for the faithful and unstinted devotion with which he has for fifteen years laboured for the institution. Dr. David Barry Hart has been appointed Gynæcologist, and Dr. Milne Murray and Dr. N. T. Brewis Assistant-Gynæcologists, to the Edinburgh Royal Infirmary.

PROFESSOR FROMMEL, Editor of the well-known *Jahresbericht f. Geburtshilfe u. Gynäkologie*, has resigned the chair he occupied at Erlangen and is going to reside at Monaco. In recognition of his long and valuable services he is allowed to retain his rank and title as University Professor.

ERLANGEN.—For the Chair of Obstetrics and Gynæcology, vacated by the resignation of Professor Frommel, the Medical Faculty nominated: (1) Professor Pfannenstiel, Breslau; (2) Privat-docent Dr. A. Gessner, Erlangen; (3) Privat-docent Otto v. Franqué, Würzburg; Privat-docent Dr. Krönig, Leipsic. Dr. Gessner has been appointed by the Government.

HALLE.—Professor E. Bumm succeeds to the chair of Obstetrics and Gynæcology vacated by the transfer of Professor Fehling to Strasburg, and Dr. O. v. Herff, of Halle, to the chair at Basle vacated by Professor Bumm.

LEIPSIK.—Dr. Krönig and Dr. Menge (*privat-docenten*) have been appointed Extraordinary Professors of Gynæcology.

At the biennial election of officers of the Munich Gynæcological Society, *Privat-docent* Dr. Joseph Alb. Amann, director of the Royal Gynæcological Clinic (No. 2), was chosen 1st President; Dr. Gossmann, 2nd President. Doctors Arthur Mueller and Bruenings, Secretaries; and Professor Dr. Sneguireff, of Moscow, was elected an Honorary Fellow of the Society. Professor Amann has, at his own wish, been relieved of the charge of the Gynæcological Clinic in Reisingerianum, with cordial recognition of his many years' valuable service.

DR. CESARE MORLETTI and Dr. Ersilio Ferroni have been appointed free unattached teachers of Obstetrics and Gynæcology at Padua and Pavia respectively, and Dr. A. Saladino at Sienna.

THE mixed Commission from the University and Municipality of Paris for the nomination of candidates for the new Chairs recently founded by the Municipal Council, has sent for confirmation to the Minister the names of the candidates in the following order: For the Chair of Gynæcology, M. Pozzi, M. Bouilly, M. Segond; for the Chair of Infantile Surgery, M. Kermisson, M. Brun. M. Pozzi and M. Kermisson have been appointed by the Minister. Professor Pozzi, it may be remembered, was one of the eminent foreigners on whom the Royal College of Surgeons conferred its Honorary Fellowship on the occasion of its Centenary Celebration. He is also a member of the French Senate.

PROFESSOR REIN has been transferred to St. Petersburg from Kieff, where he is succeeded by Professor Muratow, of Dorpat. Dr. Massen, *privat-docent* at St. Petersburg, has been given the Dorpat chair.

STRASBURG.—Professor Freund, who has been engaged in teaching at Strasburg since 1879, has resigned, and is returning to live in Berlin. He was entertained at a farewell banquet by the Medical Society of Alsace and Lorraine, which was attended by two hundred of his colleagues and former pupils, when Doctors Naunyn and Biedert in eloquent speeches expressed the affectionate regret felt by all at losing him from among them, and the regard with which they would continue to esteem him.

VIENNA.—Dr. R. Savor to be *privat-docent* of Obstetrics and Gynæcology.

WÜRTZBURG.—Dr. G. Burckhardt is made a *privat-docent* in Obstetrics and Gynæcology. The title and rank of Extraordinary Professor is bestowed on Dr. Otto v. Franqué, *privat-docent* of Gynæcology.

DR. W. J. SMYLY, of Dublin (ex-President British Gynæcological Society), is to deliver the Ingleby Lecture in the University of Birmingham on Tuesday, May 14, upon "The Lower Uterine Segment and the Contraction Ring."

AT the ninth Congress of the German Society of Gynæcology to be held at Giessen from May 29 to June 1, 1901, the following questions will be discussed:—(1) Cancer of the Uterus; (2) Eclampsia.

THE sixty-ninth annual meeting of the British Medical Association will be held at Cheltenham on Tuesday, Wednesday, Thursday, and Friday, July 30, 31, August 1 and 2, 1901. In Section C (Obstetrics and Gynæcology) the officers are: President, Professor John William Byers, M.D.; Vice-Presidents, Alfred Square Cooke, M.R.C.S.; William Duncan, M.D. Honorary Secretaries, Miss Eveline A. Cargill, M.D., Lansdown Lodge, Lansdown Road, Cheltenham; Comyns Berkeley, M.D., 53, Wimpole Street, W.

THE Seventy-third Congress of German Naturalists and Physicians will meet at Hamburg from September 22 to 28, 1901, in sixteen Sections: No. 5, Obstetrics and Gynæcology.

IN Switzerland 539 women, nearly all foreigners, are now studying medicine, the number of students at the different faculties being as follows:—Basle, 141 men and 4 women; Bern, 186 men, 202 women; Geneva, 180 men, 177 women; Lausanne, 121 men, 62 women; Zurich, 208 men, 94 women; altogether 1,375, of whom only 608 men and 24 women are natives of Switzerland.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS. AUGUST, 1901.

ON REFLEX PHENOMENA AND SYMPATHETIC PROCESSES IN THE FEMALE GENITAL ORGANS: THEIR ADNEXA, AND OTHER PARTS OF THE BODY.

KEHRER (*Münchener med. Wchns.*, 1901, No. 23, S. 951), discussing the above subject at the Heidelberg Medical Society, included among the reflex phenomena the reflex erection of the distensile parts of the vulva, the contraction of the muscular tissue of the pelvic floor, and also the contraction of the gravid and puerperal uterus induced by excitation of the nipples. Pflüger's theory that the ripening of a Graafian follicle causes a reflex genital hyperæmia, with an exudation of blood and mucus upon the uterine mucosa, he could not accept, because periodic uterine hæmorrhage had been observed repeatedly after complete castration.

The sympathetic isochronous processes he divided into two groups:—

(1) Those occurring at certain times of the day or year; periodical waking and sleeping, the coming on heat of wild animals at certain seasons of the year.

(2) Those affecting individuals at certain times of life and succeeding each other in definite order: to wit, the onset of puberty and sexual desire, the phenomena of pregnancy, labour, and childbed, and the occurrence of the menopause.

In Kehler's opinion certain atmospheric changes may be accepted as factors in the first group, but the second cannot be attributed to any changes in the constitution of the fluids of the body, but are rather due to some influences as yet unknown. That certain products of change in the gravid genitals find their way into the fluid circulating in the system and act as galactagogues, stimulating the growth and secretion of the mammary glands, or that certain glands may be stimulated by the gravid genitals to secrete matter to act as a galactagogue, may possibly be imagined; but such views are untenable, since in childbed the action of the mamma on the uterus is in the opposite direction. During childbed the genitals undergo involution, while the mammæ reach their maximum development

on the third day and continue their secretion for some long time afterwards; moreover, after division of all the mammary nerves, and even after transplantation of the gland, the hypertrophy and secretion of colostrum proceeds parallel with the enlargement of the uterus. As to the causes of the simultaneous changes in the genitals, mammæ, and other parts of the body during pregnancy, at present all we can say is that neither nervous influences nor alteration in the blood need be considered.

CLITORIS CRISES IN TABES DORSALIS.

KÖSTER, Leipsic (*Münch. med. Wchns.*, 1901, No. 5), met with these exceptional phenomena, which have been chiefly described by French authors, in a woman of 49, who, in addition to tabetic affections of the bones and joints and laryngeal crises, had for ten years been suffering from a peculiar form of clitoris crises, which occurred every four weeks at the menstrual periods, without excitation on her part, and generally when she was in bed. At their onset she suddenly felt a voluptuous tickling in the vagina that extended downwards to the vulva and erected clitoris. The sensations increased in a short time to an erotic spasm ending in a discharge of mucus from the vagina. Directly the voluptuous feelings ceased she was attacked by acute pains in the vagina and hypogastrium radiating to the spine, and, with short pauses, lasting for several hours. The menopause, established two and a half years ago, had not induced any change in the onset or course of these erotic spasms. The genitals were normal except for senile atrophy. The woman had not had any children born alive but had aborted twice, and there was probably specific infection from a dissolute husband.

ON A FORM OF UTERINE ATRESIA HITHERTO UNRECOGNISED (MESONEPHRIC ADENOMYOMA). By PROFESSOR L. LANDAU, of Berlin. Being an Address to the Berlin Medical Society delivered on January 22, 1901.¹

The various forms of atresia of the genital female canal, apart from their interference with its functions, are in themselves, unless submitted in good time to surgical treatment, dangerous to life, and therefore merit our consideration not merely from a scientific, but in a still greater degree from a practical point of view. With the exception of the physiological atresia of old

¹ The German report of this address, kindly forwarded to us by the distinguished author, was unfortunately delayed in transmission and did not arrive until it had been already noticed in the weekly journals. We are, however, glad to give it to our fellows *in extenso*, as, both in regard to the atresia and the tumour, it is of exceptional clinical and pathological interest.

age, after the cessation of menstruation, and that form associated in earlier life with arrested development or absence of the uterus, these deformities, if left alone, usually lead to death from the rupture of a hæmatosalpinx and the consequent bleeding and peritonitis.

The diagnosis of an atresia affecting the female genital canal is not a matter of any difficulty, and depends merely on an examination of the genital canal. Unfortunately, just as even in severe climacteric hæmorrhage, the bleeding is erroneously accepted as normal and connected with the climacteric, while in reality a carcinoma is slowly developing without causing any of the classical symptoms, such as pain and discharge, so too often examination is neglected in these cases, and there are two reasons for this omission. There is in the first place the objection generally felt to subjecting young persons to such an examination, the valuable data that may be obtained by rectal palpation being often forgotten, and secondly, the superstition that the onset of menstruation is generally attended by a certain amount of trouble, or not uncommonly postponed for several years.

In fact, if menstruation with external bleeding is established, in the opinion of a good many people there is nothing whatever, in spite of any existing distress, to justify an exploration. The case is diagnosed as one of dysmenorrhœa, and the usual treatment is adopted with the usual unsatisfactory results, and the patient ultimately succumbs just because no effort has been made to discover the atresia, the true cause of her complaint.

It is especially important for the practitioner to bear in mind those cases in which the genital canal is double, one half forming an open passage and the other being occluded. In such the question of the atresia of the one half leading to a fatal termination is quite independent of the other half of the uterus discharging menstrual blood or not. It is of course in young persons that such fatal termination is met with.

As cases of atresia with consequent congestion in early life generally come under a physician's notice, I was no little surprised last year at being consulted by a woman of 40 who had never menstruated, and whose complaints, confirmed by her condition, were typical of uterine atresia with hæmatometra and hæmatosalpinx duplex. From her twelfth year, without ever losing any blood, she had every four weeks suffered from severe troubles on account of which she had twice (in her 18th and 23rd years) sought to be operated upon. For the last three years she had been bedridden and unfit for work owing to repeated attacks of hypogastric inflammation. I was much struck by the history of the case, for, as I have said, the persistence of an atresia of the genital canal, with such consequences for such a long time, without leading to death, was a new fact to me.

The woman was well built and otherwise normal, but on making a vaginal examination I came, at a distance of 6 cm., upon an extraordinarily dense voluminous mass replacing fornix and cervix, above which a tumour about the size of a child's head projected, right and left, out of the small pelvis. In spite of the condition of the parts, which quite corresponded with the presence of suppurating inflammatory disease of the adnexa, I could not dismiss the idea that I had to deal with blood sacs, as on operation was found to be the case.

It was impossible to operate from the vagina and therefore, apart from any other reasons, I performed an abdominal laparotomy, and with some considerable difficulty removed the uterus and the whole of the tumours. In the specimen before you you see: hæmatometra corporis uteri, hæmatosalpinx duplex; right-sided òphoritis productiva, and cystoma ovarii sinistri hæmorrhagicum; there is also pachy-pelvi-peritonitis adhæsiva and some hæmatomatous cysts of the pelvic connective tissue. Finally, you may see that in place of the cervix there is a roundish solid tumour, the size and shape of an apple, continuous with the corpus uteri.

The examination of the tumour thus completely occluding the uterus and taking the place of the cervix and of the fornix vaginæ, disclosed a condition most remarkable anatomically and in its ætiology, and, so far as I have been able to ascertain, never before met with. It proved to be a mesonephric adenomyoma (L. Pick) of the same type as the adenomyoma of the uterus and tubes described by v. Recklinghausen. On account of its importance a detailed description of this tumour will be published hereafter.

The diffuse transition of the tumour into the corpus uteri and the other parts about it is quite evident, even to the naked eye, and under the microscope every section shows the same characteristic structure: muscular and glandular tissue in open and close order, in a stroma of cystogenous or lymphadenoid connective tissue; rows of tubuli; main ampullæ with parallel canaliculi opening into them, in fine—the primitive renal structure described by v. Recklinghausen.

To explain this mesonephric tumour, if you will consider the arrangement of the primitive genital system before differentiation, you will see that the Wolffian body normally exhibits transverse canaliculi for some distance beyond the place where it is crossed by Müller's duct. The inclusion of such transverse canaliculi in the substance of Müller's duct would supply the germ for the mesonephric tumour.

Not the slightest trace of a cervical canal could be detected under the microscope in any cross section of the occluding adenomyoma from the top to the bottom, and nevertheless, in

spite of hæmatometra existing for more than twenty years and of the hæmatosalpinx, the mucosa of the corpus uteri and of the tubes was quite sound; this condition of the mucous membrane in genital atresia was noticed for the first time eight years ago by Theodor Landau and Rheinstein.

That this tumour was a mesonephric adenomyoma is evident not only from the positive proof of its examination but also by exclusion. The only other structures to be considered are: growths of displaced cervical epithelium, post-fœtal growths of the mucosa of the corpus, or some tumour derived from the glandular cervical appendages of the Wolffian duct, such as was recently described by Dr. Thumin of my own Clinic, and simultaneously by Dr. R. Meyer. Now as this tumour did not exhibit the characteristic signs of any of these, there can be no doubt that it was a mesonephric adenomyoma.

In its clinical aspect the case is remarkable from the age of the patient; at the time she underwent operation twenty-eight years had passed since her first menstruation.

It so happened that a short time previously I had under my care a woman of 30, who from her fifteenth year had suffered from molimina every four weeks, but had never had any catamenial discharge. For some months her sufferings had been extremely severe, resembling colic, and more recently peritonitis. In this woman, who was otherwise in blooming health, I found a very thick and tough occlusion of the collum, there was no portio vaginalis, but on either side there was a definite cystic tumour. Laparotomy disclosed typically cystic tubes filled with blood, an hæmorrhagic ovarian cystoma on the right side, and in the left ovary, which was somewhat enlarged, a cyst the size of a cherry. The uterus was enlarged, but so thickened and hard, that I did not suspect the existence of hæmatometra, yet in consideration of the changes in the ovaries, and the possibility of the subsequent occurrence of hæmatometra, I removed the ovaries as well as the tubes. The patient recovered from the operation completely, but the colic soon recurred and did not disappear until after I decided, three months later, to open the previously untouched uterus from the vagina, when the organ was found to contain about three tablespoonfuls of old menstrual blood.

I think it possible, considering that the patient was quite well till four months before the operation, and that the severe dysmenorrhœic colicky pains did not come on earlier, that the accumulation of menstrual blood in the uterus may not have occurred till very late.

Very few cases of operations for genital atresia hitherto recorded are analogous to mine in regard to the age of the patient; the only ones I have been able to find in which the

patients were so old when submitted to operation are two, published in Finland by Engström and Pippingsköld, of the ages of 40 and 46 years respectively. Rossa has reported a case in which the woman was 35.

In its surgical aspect the case was one of singular difficulty in ways upon which, as of more particular interest to specialists, I will not now dilate. I may, however, mention the fact that both ureters were in extreme danger and would certainly have been injured during the operation, had not my experience led me to make my incision into the hæmatometra, that is, into the uterus, in the sagittal plane, and to defer the separation of the adnexa from the sides and floor of the pelvis and their removal until afterwards. The patient made a somewhat prolonged but nevertheless good recovery. I may also say here that so far as I know, the abdominal radical operation, the only operation entertained in this case, has not previously been performed for atresia of the single (undivided) genital canal. Supravaginal amputation, which in this case was quite out of the question on account of the adenomyoma situated in the cervix, has I find been done only three times in case of such atresia.

To return again to the pathogenesis of this tumour, the point of most scientific importance. How did a mesonephric myoma come to be situated where this one lay?

Let me once more refer you to the diagrams on which you may see depicted the physiological development of the transverse canals of the Wolffian body as far as the intersection with Müller's duct (*demonstration*). One has but to imagine these transverse canaliculi, from persistence or delayed involution, extending somewhat further down, and the key to this remarkable formation in such a spot is given. Hyperplasia of the distal section of the two Wolffian bodies must lead to a stinting of both Müller's ducts in their cervical and fornical sections, and, on the other hand, to the intussusception of the primitive renal canaliculi, and therefore of germs for the subsequent development of mesonephric adenomyoma. Embryology affords no other origin for the condition which we have found in this case in its most typical formation.

This explanation—and I cannot offer any other—is, however, supported by a similar preparation for which I am indebted to the kindness of Fräulein Dr. Bluhm. In it we find a uterus unicornis likewise occluded by a mesonephric adenoma of the cervix and vaginal fornix, but whereas in my case both the Wolffian bodies have persisted and undergone hyperplasia, here the hyperplasia has been confined to the right Wolffian body, and it is most interesting to see that this hyperplasia has not only checked the development of the right side of the uterus so completely that there is merely a small ampullary tubal portion

and the ultimate result is a uterus unicornis sinister without any right horn, but has also compressed the collum and vaginal portion of the left uterus unicornis, and, with the slight difference that here, at all events microscopically, a cervical canal can be seen, has led to the same conditions as in my own case.

That embryonal hyperplasia of one organ may lead to arrested development in another is a theory already accepted for other deficiencies of the female genital canal. A bilateral hypertrophy of the round ligament, a section of the gubernaculum Hunteri (primitive renal inguinal ligament), may by traction draw Müller's ducts apart and by preventing their fusion be the cause of duplication.

That these two cases are alike instances of the condition hitherto described under the common term atresia congenita cannot be gainsaid. It is true that the congenital nature of gynatresia has lately been contested, as for instance by Nagel and Veit. Like adhesions of the labia minora in young maidens, or of the two folds of the prepuce, or like the cases so often published of atresia due to traumatism or ulceration, gynatresia may no doubt be acquired—indeed according to Veit the association of hæmatosalpinx with gynatresia is a sure criterion of the acquired nature of the occlusion—and one must also admit that purulent catarrh, ulceration of the vagina or of the cervix even in early life, may lead to occlusion by the formation and cohesion of raw surfaces. Nor do I deny the contention of Nagel and Veit that the occlusion in a series of cases hitherto held to be congenital, has been acquired. But in the two cases under discussion, any possibility of their having been due to a post-fœtal inflammation of a possibly primarily normal cervix and vaginal vault is excluded. In each we have a new growth derived from embryonal germs, and we must accept hyperplasia of the Wolffian body as an ætiological factor in the tumour and as the cause of occlusion during embryonal existence.

Since the atresia itself is thus shown to be congenital, and since it is otherwise proved that blood may find its way from the tubes into the cavity of the pelvis, there become organised and form false membranes, and so lead to the occlusion of the pavilion, it would be quite unjustifiable to conclude from the hæmatosalpinx that there was any infectious or bacterial reason for this occlusion of the tube.

I therefore come to the conclusion that the view above quoted is not applicable to the cases I have described.

Another important point I may here allude to. It was formerly, and indeed is still, held, that the so-called "congenital" atresia represents a *vitium primæ formationis* of Müller's ducts, and here, for the first time, proof is given that gynatresia may

be the consequence of a *vitium primæ formationis* of the Wolffian body, which in woman is under certain physiological disadvantages, by hyperplasia of that body and compression of the ducts of Müller.

I must refrain from considering here the theories as to the mechanics of the formation of blood cysts. That the well-known reflux theory, which supposes that blood from the menstruating uterus flows towards the tubes and ultimately through them into the abdominal and pelvic cavity, cannot be upheld in its entirety, is clearly proved by the case related to-day, as by four others I have seen. Blood was found not only in the occluded uterus and closed tubes, but also in the omentum and forming intraovarian and subperitoneal hæmatomata; that is to say, there were accumulations of blood in places which mechanically were completely beyond the range of possible reflux from the uterus.

Finally, apart from the atresia, this case is of even greater importance as illustrating the origin of these singular mesonephric adenomatous new growths in the female genitals.

As I had the honour to describe to you two years ago, von Recklinghausen has found mesonephric adenomyomata in the corpus uteri, and in the angles and in the middle portions of the tubes. Good fortune, which has allowed Theodor Landau and myself to operate on a large number of cases of the sort, and the labours of our pathological anatomist Ludwig Pick, have enabled me to add materially to our knowledge of these tumours. In addition to the localities mentioned by von Recklinghausen, we have in my own clinic found mesonephric adenomyomata all over the field of the primitive renal fold; they have been described, in the ovary by v. Babo, in the *epoophoron* by L. Pick, in the *ligamentum latum (juxta-uterum)* by L. Pick, in the *ligamentum rotundum* by A. Bluhm, and in the *forix vagina* by L. Pick. Till now one locality for such a growth was unknown, the *cervix*, but this gap is filled by the case I have related to you to-day.

THE TREATMENT OF CHRONIC ENDOMETRITIS IN GENERAL PRACTICE.

MENGE (*Archiv. f. Gynaek.*, Bd. lxiii., Heft. 1 and 2) thinks that unless chronic endometritis is injuring the system directly or indirectly it need not receive local treatment; when it depends upon constitutional causes it should be treated constitutionally and local measures may be added afterwards should they prove necessary. It is, however, sometimes very difficult to decide whether the uterine affection is the cause or the consequence of the constitutional disturbance. In neuropathically disposed women even a slight endometritis may act as a source

of physical injury. Blenorrhagic endometritis, whether chronic gonorrhœal (infectious), or post gonorrhœal (non-infectious), should always receive local treatment as early as possible. Curettage of the uterus Menge would like to see greatly restricted in its application; though a popular proceeding, it is for various reasons an unsuitable way of treating endometritis in general practice. In the investigation of a case it is better to avoid the use of the sound, and even test tampons are quite unnecessary. A correct diagnosis can generally be made by bimanual palpation, the use of the speculum, and an exact anamnesis; obscure cases should be handed over to a specialist without submitting them to any treatment that can be avoided. The distinction between *E. cervicis* and *E. corporis* is of no real use to the practitioner; the entire endometrium is always involved. Cases may be classed as hæmorrhagic or hypersecretory according to their chief features, and there are many varieties of each class according to their ætiology and symptoms, e.g., *E. chronica post partum, vel post abortum*; *E. cum chlorose*; *E. senilis*, &c.

After a critical review of all the varied apparatus that may be employed in the treatment of chronic endometritis, considered from the point of view of the general practitioner, Menge concludes that rapid and successful cure can only be expected from the use of powerful caustics, and on the basis of many years' experience, recommends as the most effective for intrauterine application in these cases, a 25, 30 or 50 per cent. solution of officinal formalin in water. Such application is not followed by hæmorrhage or colic, and does not lead to stenosis or obliteration; the cauterised tissue is easily thrown off, and is not, as that from the use of chloride of zinc, prone to bacterial decomposition. For applying this solution, Menge employs slender rods shaped like sounds, cut out of a sheet of hard rubber with a definite curvature; they are rectangular in section, diminishing in size to a rounded point; are very light and elastic, easily sterilised, and are not attacked by the caustic; their low price allows of their being ordered in large quantities (Schædel, Leipsig). Before use their ends are wrapped round with cotton wool, and both the rods and their armatures of cotton wool must be absolutely germ free. This he ensures very simply by keeping them ready for use in a glass cylinder with an airtight cover, filled to a height of 7 cm. with a 30 to 50 per cent. solution of formalin; the handles of the rods projecting above the fluid are soon sterilised by the vapour of the formalin. In the application of the caustic to the uterine cavity every precaution is taken, the portio is fixed in one of Trelat's or Neugebauer's specula, the os externum is carefully wiped out, &c.; two or three sounds are required. A small strip of iodo-

form gauze is afterwards inserted below the external os. Should one or two applications not suffice, complications must be present that necessitate further treatment by a specialist.

Intrauterine cauterisation is contraindicated in pregnancy, intra or extrauterine; in acute or subacute uterine genorrhœa; in acute or chronic inflammatory changes in the uterine muscular tissue, in the adnexa, or in the perimetrium; in placental sub-mucous myomata; in placental polypi, and in polypi or malignant or tubercular lesions of the uterine mucosa.

Menge lays great stress upon the essential difference there is between such caustics as are effective and powerful disinfectants and such as are not so; and also upon the vital importance of asepsis in the consulting room.

PATHOLOGICAL FIXATION OF THE UTERUS.

STEFFECK, Berlin (*Deutsche m. Wchns*, 1901, Nos. 10, 11) opposes the radical operation, which he does not admit to be ever indicated by fixation alone. Every case must be treated entirely upon its own merits, and above all things, the diagnosis must be absolutely exact. In indirect fixation of the uterus from large adnexal tumours, laparotomy and ventrofixation is indicated, but for direct fixation he recommends "vaginal hysterolysis," separation of the adhesions made accessible by anterior and posterior colpotomy, followed by fixation of the liberated uterus to the anterior vaginal wall.

THE ALEXANDER-ADAMS OPERATION IN MOBILE RETROFLEXION.

By DR. CARL PETERS, Dresden. *Muenchener medicinishe Wochenschrift*, 1900, S. 1163.

As a pupil of Werth's, one of the first to duly esteem and make known this operation, I had ample opportunity myself to study and practice it in the Kiel Frauenklinik. Alquié, as long ago as 1840, suggested that traction on the round ligaments would repose the prolapsed uterus, and Aran, soon afterwards, that the same method would restore the position of a womb in mobile retroflexion. But Alexander, of Liverpool, and Adams, of Glasgow, were the first to carry out the idea in practice in 1881-2, and to describe the technique of the new operation.

Naturally there were at first a good many unsuccessful operations. The round ligaments were not always to be found on the first trial in their fan-like expansion at the outer inguinal ring, or when found were ruptured by unskilful traction and slipped out of sight. Werth, Kocher, and Edebohls soon decided on splitting open the inguinal canal and found the ligament more easily, and, as it is there much stronger, with much less risk of its rupture when pulled forwards. The

slight amount of shortening also at first practiced (2-3 cm. by Alexander) caused many more functional failures and relapses than the method, which was afterwards generally adopted, of resecting from 8-10 cm. of the ligament. Werth adopted this plan very soon, and so had fewer failures than those who operated exactly in Alexander's way.

No doubt to many operators who are gynæcological specialists only, the region of the inguinal canal is at first somewhat strange, and they therefore feel a certain timidity before their first Alexander operation; and this explains why the operation has been so much left to surgeons and has in their hands been so successful. Fütth justly remarks in discussing Bode's vaginal method of shortening the round ligaments: "The surgeon will perhaps always prefer the exposed field of the Alexander-Adams operation with its more certain asepsis, to what Werth calls the *chiaro-oscuro* and uncertain antisepsis of the vagina." My own opinion is that these operations, which are by no means difficult of performance, will soon be accepted by anyone who has successfully operated on a few cases to begin with. It is the unobstructed view of the field of action that is the essential attraction of this method.

Lapthorn Smith (89 cases) is somewhat too confident in saying that after dividing skin and fascia the round ligaments may be found with one's eyes shut. He would not invariably be so fortunate, though doubtless so sometimes, or even frequently. Rumpf says that the operation can, by one accustomed to it, be done in half an hour, and I have myself several times completed it in twenty-three or twenty-four minutes.

Some of the objections raised against the Alexander-Adams operation appear so sophistical and unsound that it is enough merely to mention them: for example, in Hegar and Kaltenbach's "Operative Gynæcology" (1897), it is said that the ligaments may be so thin "that, even after opening the abdomen, it may be impossible to trace them up to the internal inguinal ring," and in regard to splitting up the inguinal canal, in spite of the good results of Kocher, Werth and Küstner, "This seems to us as too serious a proceeding—only less so than an incision of the linea alba—for us to determine upon. Above all we dread the occurrence of hernia." Now, as is indisputably proved by copious statistics, the Alexander-Adams operation is absolutely the least dangerous of all the methods that have been proposed for the surgical relief of retroflexio uteri mobilis, and while very rarely followed by hernia when the stitching up has been carefully done, is by itself sufficient, without any more radical measures, to cure any existing hernia or predisposition thereto. No disfiguring cicatrices have been observed after the operation, on the contrary, it is often very difficult to find without some

delay, the slight linear scars which are almost entirely covered by the pubes.

The difficulty or danger of the operation, its impracticability in many cases, the danger of consequent hernia, the prolonged healing of the wound, and disfiguring cicatrices, &c., are objections seldom advanced save by those who have either never done the operation at all, or have done it but rarely and—for what reason who can say—with bad results.

Even in the eighties the operation was soon widely practised in England and America, while in Germany it was almost forgotten again, although according to Füh it had first been done on the living by v. Langenbeck in 1856. Zeiss published his first case in 1885 and the following year brought the operation up for discussion at the Munich Gynæcological Congress in connection with a report of two cases. Zeiss, Slaviansky, and Mundé spoke well of the proceeding, v. Winckel and Küstner were less favourable. But at that time the speakers had but little evidence at their disposal, and their judgment depended upon a few cases only, not free from mischances. After he had in 1888 convinced himself of the permanent good results obtained by Werth, Küstner soon became a warm supporter of the method.

In 1887 Casati was able to collect 139 published cases, the results of which were much in favour of the operation. In 1894 appeared the work of Werth reporting 48 cases, the first dating from 1887, with good results throughout. In all these cases the only accidents Werth met with was a double inguinal hernia in one instance and a bulging out in the parts about the scar in another, and both before he had improved his technique. Grusdew reported that amongst 41 cases kept a long time under observation at the Kiel Clinic there were only two relapses. Kocher practised the operation from 1888, at first according to Alexander's rules, later by his own method.

In 1893 Rumpf saw Lanz, a pupil of Kocher, do the operation on the dead body. Rumpf in his first 16 cases operated in Kocher's way, drawing the ligament out towards the anterior superior iliac spine; he then modified his proceedings towards Werth's practice, drawing out the ligaments in their own natural course and thus inducing a greater inclination of the uterus forwards. Kummer, Beutner, Stocker, had already pointed out that traction outwards caused much elevation, traction in the course of the ligaments increased flexion forwards.

THE TREATMENT OF RETROFLEXION TO-DAY.

FLAISCHLEN (*Deutsche Zeitschrift f. Chirurgie*, Bd. lviii., Heft. 3 and 4), in an address to the *Berliner Gesellschaft f. Natur und*

Heilkunde, December 4, 1900, "On the Present Position of the Treatment of Retroflexion," pointed out that the clinical importance of this displacement was such that upwards of one thousand women had on account of it submitted to vaginofixation, an operation that, nevertheless, was disapproved of by a large number of German gynecologists. He went on to say: Theilhaber of Munich takes the extreme view that retroflexion in itself causes no symptoms and needs no orthopædic treatment, and that all co-existing troubles are to be referred to uterine catarrh, hysteria, neurasthenia or intestinal atrophy; on the other hand Dührssen admits that he operates on one half of all the retroflexions he has to deal with. Most gynecologists agree that retroflexion in many cases causes neither symptoms nor distress, and yet in others gives rise to most serious trouble, but there is no such agreement as to the symptoms that retroflexion may cause. No doubt there are *reflex symptoms*, such as gastric oppression and dyspepsia, headache, weight and paralytic weakness of the extremities, melancholia and depression, as well as *local symptoms*, such as pains in back and abdomen, feelings of downward pressure and prolapse, strangury, pressure on the rectum and troubles in defæcation. Theilhaber and Krönig refer the reflex symptoms, not to the retroflexion, but to an independent hysteria; Fritsch thinks that the depressing influence of the displacement favours the hysteria to which the reflex symptoms may be set down.

Retroflexion may be mobile or fixed; in virgins or parous women, before or after the climacteric.

RETROFLEXIO MOBILIS in virgins is now known to be commoner than was supposed, but seldom causes trouble till the small vaginal uterus (especially the corpus) has become enlarged by endometritis. Even then treatment will be chiefly required by the chlorosis, intestinal atrophy, or neurotic condition of the patient. The womb must, however, if necessary, be restored to its normal position and supported in ante flexion by a suitable pessary, but the vagina may be too small for such a pessary, which, otherwise, is objectionable in young girls, depressing and unhopeful. The Alexander-Adams operation is then a method of treatment at once effective and safe. I have, myself, cases under observation for four or five years, in which its results have been quite satisfactory. I operate in Rumpf's way, fastening with silkworm gut, each ligament to the lateral angle of the wound in the aponeurosis and by a series of sutures to the inner side, after a shortening of from 8 to 10 cm.

But the vast majority of mobile retroflexions occur in parous women, many directly puerperal, many others apparently puerperal, but merely relapses into anomalous positions that existed during virginity. It is of prime importance that displacements

arising from childbed should at once come under treatment, simple reposition and the persistent use of ergotin may then effect a cure, but if the uterus be repeatedly found in retroflexion a pessary should be introduced, preferably when involution is completed, about five or six weeks after delivery. When the displacement has recurred from virginity or a previous confinement, it is more refractory to treatment but in many cases may be cured by persevering use of the pessary. A recent puerperal retroflexion should always be corrected, even if it cause no trouble; we know such trouble does not always come on at once, and the chief contingent of all mobile retroflexions are those puerperal displacements which are not submitted to medical advice for months, or even years, after their origin. Elischer's statement that retroflexion cannot be cured by a pessary is confuted by the personal knowledge of every experienced gynæcologist. To choose and properly instal a suitable pessary is a matter requiring patience and practice, and far more difficult than many minor operations, such as amputating the portio. As Küstner says: "Correct pessary treatment is beyond the knowledge and ability of many a practitioner; how often a ring is introduced without the position of the uterus having been corrected, or below an organ fixed in retroflexion. Every clinical teacher should give thorough instruction in pessary treatment, and warn his pupils against over-readiness to operate. The coming generation of gynæcologists must not be brought up with the idea that retroflexion is only to be remedied by the knife." The longer the displacement has existed, the longer must the pessary be worn; for one year at least, and often for two or three; if well fitted it need not be removed oftener than once a quarter for cleaning, and if the uterus has kept its position for a considerable time, smaller instruments may be successively substituted for the previous ones. In all patients with retroflexion regular defæcation is most important; intestinal atony persisting from childbed is in these cases the commonest cause of the obstipation. Olshausen, however, believes that the enlarged puerperal uterus at first acts mechanically and intestinal atrophy is a secondary cause. I concur with v. Rosthorn that the beneficial effect of reposition is not due to "suggestion." I have often diagnosed a retroflexion from the typical symptoms told me, have replaced the womb and inserted a suitable pessary, and the patient, though quite unaware what had been done, has been completely relieved, and remained so.

In mobile retroflexion spontaneous cure is not very uncommon, the contraction of the ligamenta retro-uterina drawing the cervix backwards. There is no indication for operative treatment till persevering pessary treatment has been tried and failed, that is to say, that the pessary does not keep the

uterus in position, or cannot itself be borne. Most gynaecologists recognise this principle; but operation may be indicated by the patient residing too far away for regular control, or by her social position, by the co-existence of descent or prolapse, or a defective perinæum. *Ventrofixation* may be recommended if there be extreme prolapse, or as a secondary proceeding after laparotomy for other causes. *Vaginofixation* is discredited on account of its interference with pregnancy and labour, especially when the fundus has been attached to the anterior vaginal wall. Moreover, the sufferings of the patients are often much aggravated after this operation, and relapse is not uncommon, and is the more probable if the fixation be made, as by Olshausen and Martin, at a distance of only 1—2 cm. above the os internum. The future will show the exact value of vaginofixation. At the Leipsic Congress a number of German gynaecologists warmly eulogised the *Alexander-Adams operation*; free from danger and effective, it secures the uterus as nearly as possible in the normal position, the fundus is free, and there is no interference with pregnancy or labour.

Retroflexion of the senile uterus, when uncomplicated, causes no trouble; when associated with cystocele it is most successfully treated by vaginofixation.

RETROFLEXIO UTERI FIXATA twenty years ago was the crux of all gynaecology, but can now be completely cured. Many cases, however, are without symptoms. The fixation, as pointed out by Steffek, may be *direct*, due to adhesions of the uterus itself, or *indirect*, through the adnexal or other tumours, &c. When inflammation is present no local treatment should be attempted, otherwise a large number of these cases may be satisfactorily dealt with by the separation of the adhesions by Schultze's method under narcosis. Reposition is sometimes incomplete, and the uterus, directly it is released, "springs back into retroflexion, which is then generally due to indirect fixation, or to *perimetric cicatrices*." Such cicatrices are perhaps the only justification for gynaecological massage. Should Schultze's method fail ventrofixation is the most suitable and surest way of dealing with these cases. The permanent elevation of the uterus relieves the tension of the ligaments and pelvic peritoneum. We always adopt the Czerny-Leopold method of stitching the corpus uteri—the anterior wall below the insertion of the tubes—directly to the abdominal wall, and in a very large number of subsequent conception and labour have never seen any trouble due to the fixation. Many operators have adopted Olshausen's plan of stitching the cornua to the abdominal wall with buried sutures and leaving the fundus uteri free, but Fritsch has advised against lateral stitching. One of his patients could not walk after it, and on opening her abdomen he found the omentum incarcerated between the attachments.

Though several renowned operators, among others A. Martin, prefer vaginofixation even for fixed retroflexion, the advantages, even though the abdominal operation is a more serious matter than the vaginal, are in favour of ventrofixation; we have a complete view of the field of action, the adhesions are separated and the bleeding controlled within sight; when the uterus is fixed colpotomy may be a very difficult matter and one works in the dark, and one may have to deal with intestinal lesions, injury to the bladder, or uncontrolled hæmorrhage, necessitating a secondary laparotomy, and even that may not prevent a fatal termination. Moreover, instances are not rare in which an operation begun for retroflexion—or even for sterility—has ended in hysterectomy, because the operator has met with hæmorrhage he could control in no other way. Now that in closing the abdominal wound the fascial layers are exactly stitched together, hernia is becoming daily more uncommon; ventrofixation, moreover, may cure sterility. Tubal disease, such as pyosalpinx, contraindicates reposition of a retroflected (and adherent) uterus, which must then be postponed till, by rest and suitable treatment, the involution of the pyosalpinx has been secured, as we now know may be affected with patience even when the pyosalpinx is a large one. Should the case be one of gonorrhœal infection, the patient in constant suffering and unfitted for work, the vaginal radical operation is to be preferred to ventrofixation.

Retroflexion of the gravid womb often causes no symptoms and is only discovered when the woman consults a physician as to whether she is pregnant or not, but it may lead to abortion or incarceration. One should repose the uterus if possible and support it by a pessary till the fifth month. If reposition be too difficult we may wait; perhaps the uterus may repose itself, but if serious symptoms intervene, such as hæmorrhage with a closed cervix and signs of incarceration, reposition, in narcosis if necessary, must be effected.

There may sometimes be considerable difficulty in the differential diagnosis of a retroflected uterus and a retrouterine tumour, possibly an ectopic pregnancy that might be ruptured by attempts at reposition. Conception is rare in a fixed and retroflected womb, multiparæ with such are nearly always sterile. No doubt should conception occur the adhesions of the pregnant womb may give way or be absorbed, no symptoms of incarceration need follow, the uterus may straighten itself and rise out of the pelvis, but abortion is more likely than in case of a mobile retroflexion.

ALEXANDER-ADAMS OPERATION AND THE ROUND LIGAMENT.

SELLHEIM, Freiburg (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft. 2), on the ground of extended anatomical investigation

comes to the following conclusions: The round ligament can as a rule be found and drawn out of the inguinal canal: it consists of smooth and striped muscle fibres. Imlach's plug of fat is not of uniform development. An unclosed processus vaginalis peritonei (*Diverticulum Nuckii*) is extremely uncommon. From the abdominal wall to the fundal angle of the uterus the peritoneum is generally closely attached to the round ligaments: these ligaments increase in strength from without inwards. The incision in the skin in Alexander's operation should be no larger than will allow of the parts about the external abdominal ring being sufficiently exposed; it should commence about 1 or 2 cmm. outside the spine of the pubes, and extend for 4 or 5 cmm. parallel to Poupart's ligament; the fascia of the external oblique muscle can be separated by blunt dissection from above inwards and downwards. The round ligaments may be shortened at the external ring without any division of the anterior wall of the inguinal canal.

ALEXANDER'S OPERATION.

LE ROY BROWN (*Amer. Jour. Obst.*, April, 1901) emphasises the following points:—Make a clean-cut incision down to the aponeurosis of the external oblique muscle, reaching the aponeurosis rather to the inner side of the ring than directly over it.

Bear in mind the presence of the superficial fascia, the density of which varies from such thinness as to be hardly recognisable, to such thickness as to make it readily mistaken for the aponeurosis.

Expose into clear view both pillars of the external abdominal ring when distinctly marked. If indistinct, as in small rings and in instances of dense intercolumnar fascia, expose clearly the anatomical position.

Seize the projecting mass with blunt-toothed forceps; this mass consists of round ligament, connective tissue, very frequently some fibres of the external oblique fascia, and occasionally the genital branch of the genito-crural nerve. The nerve is to be separated and the ligament withdrawn by steady traction to the desired length. J. F. J.

SCHUCKING (*Centralb. f. Gyn.*, 1901, No. 14) has devised the following method of treating retroflexion. After vaginal opening of the plica vesico-uterina, he transfixes the broad ligament of one side with a large-handled needle, passes the thread round the fundus uteri and then transfixes the other broad ligament; the thread is knotted in the anterior vaginal vault. In this way the uterus is brought into decided ante flexion, while the corpus preserves its freedom.

RECENT OPERATIVE WORK FOR PROLAPSE OF THE UTERUS
AND BLADDER.

STONE (*Amer. Journ. Obstet.*, May, 1901), declares that the lower pelvic floor must not be considered as the chief support of the pelvic contents. Cystocele and vaginocoele will not be cured by posterior colporrhaphy. The descent of the uterus and bladder must be prevented by an operation which will strengthen the superior plane of the pelvis. The pelvic outlet may be compared with that of the inguinal region. We have an internal and an external abdominal ring, so placed that the abdominal viscera cannot escape directly; and we likewise have a superior pelvic floor continuous with the anterior surface of the broad ligaments, and including the base of the bladder and the fascia under it, which latter is spread out over the anterior vaginal wall and is attached to the brim of the pelvis laterally and to the symphysis in front. The weight of the viscera is borne quite as much by this upper floor as by the lower. The anatomical connections of the bladder, if over-stretched, cannot be restored without an operation directed to restoring the bladder to its former place in the pelvis, and to maintaining it there by utilising both pelvic floors in correct relation to one another. The bladder must be elevated in a manner that will furnish new and better support to its base, that will not only correct the cystocele but will furnish similar support to a uterus in the first or even the second stage of prolapse, and that, in a large majority of cases, will obviate the necessity for uterine suspension or fixation.

With the patient in the lithotomy position, an incision is made in the median line through the thickness of the vaginal wall at the crest of the cystocele, and if about two inches in length will give ample room. The sides of the incision are caught with forceps and pulled apart, when the white cellular tissue shows where the separation may be continued, and with a gauze sponge we can rapidly separate the flaps from the bladder as far on each side as may be required. In case of a urethrocele we may avoid free hæmorrhage if we do not extend the separation too far laterally. In operating for prolapse of the bladder the incision extends the entire distance from the meatus to the cervix uteri. When the bladder is pushed away from the vaginal wall through the short incision first made, quite beyond danger of injury, the opening may be extended at will with the scissors; the operator will easily learn how much vaginal tissue to cut away before closing. In a case prolapsed sufficiently to allow the uterus to reach the floor of the pelvis, or the cervix nearly to reach the introitus, we may expect a most excellent result after this operation alone, without

opening the abdomen or resorting to utero-suspension or fixation. The usual operation for restoration of the pelvic floor is almost invariably necessary in addition to the one described.

J. F. J.

MODERN PROLAPSE OPERATIONS.

H. W. FREUND (*Centralt. f. Gyn.*, 1901, No. 13) upholds his method of drawing the vagina together by wire as the most suitable palliative when a radical operation cannot be done. In voluminous prolapse he combines colpo-cystopexy with colporrhaphia anterior, operating in a way somewhat different from Saenger and Gersuny. He thinks Müller's colpectomy and A. W. Freund's vagino-fixation of the fundus occasionally indicated. In total prolapse with enterocele he supplements ventro-fixation by suspension of the sigmoid flexure.

THE PREVENTION OF POST-OPERATIVE ADHESIONS.

G. GRAY WARD, JUNIOR (*Amer. Jour. Obstet.*, June, 1901), says the formation of adhesions after operation is directly proportionate to the amount of sepsis, traumatism, dry-air contact, loss of heat and raw surface there is present. The mass ligature should be abandoned, the vessels in the pedicle tied individually and the raw surface covered by suturing the peritoneum over it. The time element is of the utmost importance. Everything that will shorten the time of exposure of the peritoneal cavity to air contact should be employed. Moist and not dry asepsis must be used. One of the most important measures for the prevention of intestinal obstruction from adhesions is the replacement of the loops of intestine and the omentum in their proper relations. It is the adhesion of a loop of intestine in an abnormal position that is the cause of obstruction. The abdominal cavity should, in every case, be filled with hot salt solution before the incision is closed. This floats the intestines and allows them to adjust themselves to their normal relations. Active peristalsis must be produced early by drugs. Free motion of the bowels after a laparotomy is undoubtedly a preventive of adhesions. The patient should be encouraged to change her position in bed frequently.

J. F. J.

WILTHANER (*Centralt. f. Gyn.*, 1901, No. 18) relates a case of paralysis of the peroneus noticed the ninth day after laparotomy, and attributed by him to pressure from the badly-upholstered knee-supports of an operating table (Berndt's) in the raised pelvis position.

THE ALUM ENEMA AFTER ABDOMINAL OPERATIONS.

HARDON (*Amer. Journ. Obstet.*, June, 1901), has found that after abdominal distension has become pronounced, ordinary enemata

are ineffectual and the paralysis of the bowel persists. He recommends an alum enema as better than any other—one ounce of powdered alum in a quart of warm water. It usually causes expulsion of gas in from five to fifteen minutes, but in some cases a longer time is required. Sometimes it is necessary to repeat the injection, and this can be done any number of times with perfect safety. For nine years the author has used this enema and only once has it failed to move the bowels promptly. Peristalsis is induced throughout the whole intestinal tract.

J. F. J.

ON VAGINAL EXTIRPATION OF THE UTERUS, WITH A PROPOSAL FOR A NEW OPERATION.

DOEDERLEIN (*Archiv f. Gynaek.*, Bd. lxxiii., Heft 1 and 2), has operated in 170 instances with ligatures, in 140 with compression forceps, and in 54 with ligatures and forceps also. The total extirpations with forceps show a death rate of 6 per cent. compared with only 3 per cent. for those in which ligatures were employed; but it must be remembered that among the former there were 79 cases of carcinoma, 11 of them fatal; and also that in operations undertaken for the relief of advanced stages of that disease ligatures were no longer available. Like Landau, Doederlein considers that our surgical resources have been amplified by the introduction of compression forceps. The disadvantage entailed in leaving the peritoneal wound open he endeavours to obviate, when the operation is completed, by introducing into the pelvis above the forceps, in the Trendelenberg position, a cushion consisting of an unbroken strip of gauze, and so preventing the intestines coming into contact with the instruments at all. In making use of Müller's median section of the uterus, he has been led to a radical alteration in his method of operating. The essential points in it are, the median section of the posterior vaginal vault and of the entire uterus in a forced position of extreme retroflexion, beginning with the division of the posterior lip and Douglas' pouch, and then going on to divide successively the posterior and anterior walls of the uterus up to the bladder, and finally cutting through the anterior wall of the cervix from the mucous membrane with very great care. When this is done the bladder retires and separates itself spontaneously.

Doederlein thinks that this way of operating renders any injury of the bladder or vesical fistula improbable, and that it is suitable even for carcinoma of the portio, since, in spite of the division of the uterus, one can keep the diseased parts away from the wounded surfaces and peritoneum more easily than by former methods. This method of Doederlein's very closely

resembles that proposed for total prolapse by Doyen, but was devised quite independently; Doyen, however, also held to the idea that the bladder was less likely to be injured if its detachment was not effected from below upwards. Of course in this method of operating the principle of consecutive control of hæmorrhage must be strictly adhered to.

UTERINE MYOMATA AND DIABETES.

KLEINWÄCHTER (*Zeitsch. f. Geb. u. Gyn.*, Bd. xliv., Heft. 3) adds to the six cases already collected by him (*v. ante*, vol. xvi., p. 136) three others, that of Dr. Giles' (*ante*, vol. xvi., p. 1.), one from his own practice, and a third published by Jahreiss. He considers that the two affections run independent courses without influencing one another, and that diabetes is no contra-indication against operation.

THE DEGENERATIONS OF MYOMATA.

PROCHOWNICK, at the Hamburg Medical Society, on March 10 (*Münch m. Wchns.*, 1901, No. 19), stated that upon investigating all the cases of uterine myomata that he had met with in the course of the last twenty-five years, he had found that, even with the most careful and painstaking conservative treatment, barely three-fifths of the sufferers had been conducted past their climacteric and then remained permanently cured. In the other two-fifths operation became a matter of necessity, in many after the normal, in some after an artificial menopause; of thirty-two castrated women nine had to undergo a subsequent operation. At the same time he declared that the indications for interference were to be deduced from persistent study of the anatomy of these tumours and from clinical observation aided by all modern means of research, and not from the improved technic and better prognosis of operation.

He enumerated the following kinds of degeneration:—

(1) Simple systemic degeneration without alteration of the morphological structure of the tumour, due entirely to the clinical effects of the growth, generally to the hæmorrhage (anæmia, hydræmia, heart affections), less frequently to pressure or tension (bladder, ureters, kidneys).

(2) Degeneration of the tumour.

(a) Innocent and relatively normal changes, atrophy, calcification, adiposis.

(b) Degenerations anatomically innocent but clinically malignant.

Of these latter a considerable number are originally due to the clinical effects of the tumour before it has undergone any change (alteration in the composition of the blood from hæmor-

rhage). Acute forms are uncommon (torsions, thromboses, hæmorrhagic infarcts, accidental infection or gangrene, generally due to therapeutic measures). Subacute forms are not so rare (necrobioses, which clinically and anatomically are analogous to a dead fœtus). Chronic forms are more often seen (fibrinous, myxomatous and cystic degeneration). Telangiectatic and mechanically inflamed myomata (with or without chronic infection) also belong to this category.

[These various forms of degeneration were illustrated by specimens, as well as the special group of adeno-myomata, the existing opinions on which were shortly discussed.]

(c) Degenerations anatomically malignant. Prochownick held that when associated with myoma, sarcoma is due to metaplasia, carcinoma to invasion from without.

Clinically, a distinction must be made between the degenerations which occur before and after the menopause; the latter are always more serious and of more unfavourable prognosis, and operation, if to be done at all, should be done early.

The general progress of systemic degeneration can be accurately observed by repeated examination of the blood (estimation of the hæmoglobin before and after the menstrual flow, enumeration of the red corpuscles, leucocytosis, charting the hæmorrhage curve). A decrease of the hæmoglobin below 65 or 60 per cent., or of the red corpuscles below 2,500,000 without recovery in the interval, is an urgent indication for interference, as also is a slow but steady fall in the number of reds with a constantly decreasing recovery between the bleedings.

In morphological degeneration also, even if the patients do not suffer from very serious hæmorrhage, regular examinations of the blood are of much clinical importance; a slow fall in the figures, and alterations in the leucocytes, accompany all chronic changes in the tumours.

As points to which special attention should be directed Prochownick instanced the seat and number of the tumours and their arrangement in and about the corpus uteri; their growth and consistence, any sudden or rapid enlargement being very ominous; any change in the type of the catamenia; pains, which at their onset are generally due to tension upon the parietal peritoneum, and then always suggest the presence of some inflammation; the urine—a specimen taken with a catheter—should be examined frequently, renal irritation almost invariably occurs early in anatomical changes, even in those at first innocent. Alteration in the shape of the heart, and in the quality of the pulse are associated with every form of degeneration, and the weight and specific heat of the body, the fundus of the eye, the facial expression, the condition of the skin, and

the appearance of ascites, are not to be neglected. Degeneration of a myoma is not, any more than any other malady, betrayed by one symptom, but by the concurrence of several.

In the discussion FRAENKEL confirmed the results of Prochownick's investigations from his own experience in the *post-mortem* room. Operation was justified by the fact that the body had no power to get rid of the products of the decay of these tumours spontaneously. He was not sure that regressive changes in a myoma should be called malignant, and would himself characterise a tumour as such only when metastases were found in other parts of the body; he had met with one such case in which, after the extirpation of the myoma, both lungs were found to be infested with myomatous nodules and the primary and secondary growths proved to be identical histologically, simple myoma with glandular elements.

LAUENSTEIN said that in 1887 he had seen the suppuration of a large myoma caused by an erysipelas which had wandered all over the body of a woman who was approaching her climacteric. He contracted erysipelas followed by lymphangitis from infecting his finger while operating on the case.

PROCHOWNICK acknowledged that both cases were apposite and of exceptional interest, he had not met with similar ones himself.

KARL HEGAR, Freiburg (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. iv., Heft. 2), reporting seven unpublished cases, concludes that the origin of each of the two forms of new growth, myoma and carcinoma of the uterus, is quite independent of the other; fibroma does not favour the occurrence of carcinoma, nor carcinoma that of fibroma. The expressions "myocarcinoma" and "carcinomatous degeneration" are improper as implying an alteration in structure of a single tissue, which is not what takes place.

THE OPERATIVE TREATMENT OF PRIMARY CARCINOMA OF THE VAGINA.

KRÖNIG (*Archiv f. Gynaek.*, Bd. lxiii., Heft 1 and 2) estimates that in two-thirds of the cases of primary carcinoma of the vagina met with before they have become inoperable, the disease exists in the form of cancerous ulceration of the posterior vaginal wall. The unfortunate results as regards permanent cure have not been improved even by the more radical operations with simultaneous extirpation of the uterus, and the assistance of Dührssen's vagino-perineal incision, or the transverse division of the perineum in Olshausen's way. Krönig describes two cases operated on in similar fashion; the one exhibited recurrence only ten weeks after the operation, although

the disease had been limited to an ulcer of the posterior wall not larger than a florin, and quite movable in the tissues beneath it. The other patient was free from recurrence for five years, which implies much, considering that the only case recorded that remained longer without return of the disease is one operated on by Lauenstein. Discussing the causes of these deplorable results of operation, Krönig concludes that the intimate connection between the lymphatic channels of the posterior vaginal wall and the entire periphery of the rectum indicate that, whenever possible, in cases of cancer of the posterior vaginal wall, a circular resection of the adjacent part of the rectum should be performed. Zweifel, Friedrich and Lauenstein have already operated in this way, but so recently that no judgment can be formed as to permanent results.

MUSCLE-CELL SARCOMATA OF THE UTERUS.

WEIR (*Amer. Jour. Obst.*, May, 1901) reports three cases of sarcoma of the uterus, two associated with fibromyoma.

(1) Myofibroma sarcomatodes uteri arising from a myofibroma of the uterus; the development of the tumour could be traced from both unstriated muscle and connective-tissue cells. The patient, aged 37, had been for two and a half years aware of the presence of a slowly growing tumour, and had suffered from menorrhagia and latterly metrorrhagia.

(2) A myosarcoma of the uterus developing from fibromyoma of the uterus through sarcomatous transformation of the connective tissue elements; multiple fibromyomata showing calcification and hyaline degeneration. The patient, aged 43, had been aware of a slowly growing tumour for ten years. Menstrual periods regular, but rather profuse. For two years continual backache. The fibromyomata reached up to the costal margin and were very numerous, some being sarcomatous, some calcified and some showing hyaline degeneration.

(3) A smooth muscle-celled sarcoma of the uterus due to the transformation of muscle and connective-tissue cells of the uterine wall, without the previous occurrence of a fibromyoma. The patient, aged 38, had a history of seven months' pain and backache, and for three months, ever since an attempt at reducing a uterine displacement, hæmorrhage from the uterus. The uterus was found, on examination, to be about the size of a four months' pregnancy. Supravaginal hysterectomy, as in cases (1) and (2), was done by Dr. Hunter Robb. Convalescence was delayed by right-sided pleurisy. Cough and dyspnoea developed, followed rapidly by cachexia, and death eighty days after operation. The autopsy showed numerous metastatic nodules in both lungs and extension from the primary focus into the cervical stump and the bladder. On section of the uterus,

the whole of it, with the exception of a thin investing shell of apparently normal muscularis, was found to be transformed into a yellowish-white tissue, showing small areas of interstitial hæmorrhage. In the anterior wall was a thickening, the central part of which had broken down, and communicated with the uterine cavity through a ragged fistulous opening. The transformation of the muscle cells of the uterine wall into sarcoma cells could be plainly traced at the margin of the growth; the connective tissue cells were also undergoing a similar change, but in less numbers than the muscle cells.

J. F. J.

CANCER OF THE UTERUS AND ITS SURGICAL TREATMENT.

The Heidelberg discussion (*ante.*, May, Summary, p. 11) was continued at the Ninth Congress of the German Gynæcological Society at Giessen, May 29-31, more especially with regard to the ultimate results.

FREUND, Berlin (late of Strasburg), said: The possibility of permanent cure of carcinoma of the uterus is proved by the following cases of my own, which underwent total extirpation, the one seventeen years ago, for recurrence after amputation of the portio; and the other twenty-three years ago, for cancerous nodules in the fundus uteri. In regard to the ætiology of carcinoma he was inclined to Virchow's theory of Irritation, suspending all judgment upon the more recent reports on the exciting causes of the disease. Metastatic extension of cancer through the blood channels is not common, and the lymphatic glands are not attacked till comparatively late, very rarely indeed while the parametrium is unaffected, and in only one-third of the cases in which it is already attacked (*contra*. Wertheim); the disease when situated in the vaginal portion or cervix, advances by extension laterally through the parametrium and backwards towards the sacrum. Recurrence from inoculation (not implantation) after operation are only to be explained upon the supposition that cancer is infectious. The more completely the field of operation was brought within view by any form of proceeding the more rational was that method, and the abdominal operation was therefore to be preferred. Compared with German practice, English surgeons have, in a remarkable way, declared for the limitation of the operation. On this question statistics can as yet be of very little value.

WINTER, Königsberg: The radical methods of operation for the permanent cure of uterine cancer now practised are (1) Amputatio cervicis uteri supravaginalis; (2) extirpatio uteri vaginalis; (3) extirpatio uteri abdominalis (Freund); (4) operatio radicalis abdominalis.

The radical abdominal operation is a material advance on

the earlier ones in its extensive removal of the connective tissue of the pelvis (and parametrium) and the extirpation of the glands. These glands are involved in 35-50 per cent. of cancerous cases. Up to the present 134 radical abdominal operations have been recorded with a mortality of 24.6 per cent. (18 deaths from infection and 12 from collapse). Schauta, Wertheim, and Winter each met with one fatal case of necrosis of both ureters, and therefore these organs should not be unnecessarily stripped of connective tissue. After the mass to be removed has been detached, Winter extracts it by the vagina, or if the uterus be too large to sink below the peritoneum, he amputates it at the level of the inner os with Paquelin's cautery, buries and afterwards removes the cervix with the upper part of the vagina. On the other hand, Wertheim, without in any way preparing it, clamps the carcinoma away from the vagina, divides the vagina below the clamp, and afterwards closes the large gap in the peritoneum. Winter looks for future improvement, not to more extended, but to earlier operation; he strongly advocated an agreement upon the points to be noted in the collection of statistics.

KÜSTNER, Breslau: The abdominal operation cannot yet take the place of the vaginal. In spite of any personal conviction as to the advantages of the method results must decide our choice, and the vaginal way is far less fatal to the patients. The peritoneum must, as far as possible, be protected from any contact with the disease, and Veit's method of beginning the operation from above and finishing it from below is in this respect the safest, and accordingly gives the best results. When the uterus, with a view to its total removal by the vagina, has been depressed in the pelvis, the peritoneum should not be closed. Küstner is in the habit of carefully stitching round the uterus, after it has been prepared for removal, some bunches of gauze which, as the organ is drawn down, thoroughly mop out the entire wounded surface of the smaller pelvis. The exposure of the vessels and the removal of the glands and parametrium gives no assurance of the complete removal of the cancerous germs. Perhaps in the future we shall see part of the bladder and the lower segments of the ureters taken away also.

SCHUCHARDT, Stettin, again advocated his paravaginal incision (*v. l.c. supra*).

LEOPOLD, Dresden, in regard to the ætiology of malignant disease, insisted that such may be induced by the presence of blastomycetes (*v. ante.*, vol. xvi., Summary, p. 197).

MACKENRODT, Berlin: Cancer of the uterus is so far comparatively favourable, as there is no other place in the body where the neighbouring organs can be so freely removed with the disease. The question of infection of the glands has been

considered in an over-optimistic spirit, even by Wertheim. In operating radically one must always completely remove the lymphatic glands of the pelvis with the connective tissue about them. Infection by inoculation must be most carefully avoided; a reason in favour of the paravaginal incision, the removal of the disease with the connective tissue about it, and extirpation by the cautery. Of 39 patients operated on, 31 survived, 13 with recurrence; but 18 cases have been well for at least 3-5 years.

The larger lymph channels lose themselves in a plexus at the intersection of the uterine arteries and ureters, and it is there that recurrence most commonly occurs. *Igni-extirpation* will now very properly be superseded by the radical abdominal operation. The cases of sepsis exhibit a very singularly peculiar behaviour, and are due to irritants lurking in the cancerous tissue, and somewhat similar to the germs found by Leopold. The exposure of the blood vessels and ureters should be effected by dissection outside the peritoneum.

A NEW WAY OF EXTIRPATING THE UTERUS.

AMANN, Munich: The author has performed total vaginal extirpation of the uterus in more than 175 cases selected on very broad indications, with a mortality of about 4 per cent., but he finds that even with the help of the paravaginal incision it is not possible to clear away enough of the parametrium. Two of his cases, after five years' complete freedom, were suddenly attacked by extensive recurrence in the lymphatic glands of the posterior abdominal wall without any similar affection of the pelvis. The sacral operation offers no advantage over the vaginal, but the extended abdominal operation gives more room. He has therefore, in fourteen cases, adopted this method, with free exposure of the ureters and removal of the lymphatic glands, and lost three patients in whom the disease was very far advanced. In four instances the microscope showed that the removed glands were already attacked.

He describes a novel transperitoneal way by which he has succeeded, not only in removing a great part of the parametrium, but also in exposing the ureters, wall of the bladder, and vagina, to a most satisfactory extent, without keeping the peritoneum open more than a couple of minutes; this he did for the first time in April, 1899. The abdominal wall is divided down to the peritoneum, and he then forces his way along the bladder and vagina; an opening is made in the peritoneum from the excavatio vesico-uterina, the uterus is drawn out, and the opening is immediately closed by stitching the vesical fold to the peritoneum of the posterior wall of the pelvis. When this has been done the rest of the parametrium can be exposed and the glands

examined. He drains with iodoform gauze through the vagina, and also through the abdominal wound.

It is surprising with how little difficulty or hæmorrhage one gets down at once to the most important part, the intersection of the uterine arteries and ureters, and if necessary, can resect the latter and graft them in the bladder as proposed by Mackenrodt.

This method has advantages over the vaginal and sacral as regards removal of the parametrium, exposure of the ureters, and extirpation of the vagina; and over the abdominal method, as being almost entirely extraperitoneal. Amann has employed it in five cases, and only lost one in which the carcinoma was extremely advanced.

OLSHAUSEN, Berlin, said that the chief danger in operation for uterine carcinoma was sepsis, which was still responsible for nearly half the immediate deaths. The diseased parts should be well prepared beforehand by excochleation and the actual cautery, or by a 40 per cent. solution of zinc chloride in alcohol. Accidental injuries were also a great danger. Theoretically, if the disease had already invaded the neighbouring parts, a radical operation could only be successful in exceptional cases, and therefore, theoretically, the evacuation of the pelvic glands and connective tissue was a chimera. Extension of the indications increased the mortality and also the accidental injuries. During the last three years more than half of all his cases had undergone a radical operation. As regards permanent cure (five years), 52 per cent. of the cases were free from recurrence. Even if the pelvic connective tissue were involved, a radical operation was not hopeless, but the choice of the vaginal or abdominal way must depend on circumstances. He thought it unjustifiable to operate from the abdomen in a case of commencing carcinoma of the portio or cervix in order in such to remove the glands lymphatic.

WERTHEIM, Vienna: Had done the radical abdominal operation in fifty-seven cases; having lost one from gangrene of the ureter with ascending suppuration he now left the ureter as undisturbed in its connective tissue as possible. It was a most important fact that even in the early stages of carcinoma it had been repeatedly found that the lymphatic glands in the junction of the iliac arteries were already involved in the disease. Though no judgment could yet be formed as to permanent results, he believed himself justified on his present experience in concluding that, at least as regards permanent results, the abdominal operation was better than the vaginal.

LATZKO, Vienna, urged the preventive catheterisation of the ureters.

H. FREUND, Strasburg, practised the abdominal operation

after Wertheim, and of fifteen cases had lost two from uræmia. Differing from Olshausen, he would so operate in early cases but not in advanced ones.

ZWEIFEL, Leipsic: In spite of careful scraping and cauterisation of the diseased tissues, recurrence had occurred in two of his cases after paravaginal incisions. Thrombosis of the veins due to infection should be prevented by first tying and then dividing these vessels. The duration of cure by the parasacral method was very prolonged, but even advanced cases of parametric infiltration might be dealt with by the vagina.

STAUDE, Hamburg, makes the paravaginal incision of Schuchardt on both sides, but does not find the operation at all so easy as described by its originator; the separation of the parametrium and arrest of hæmorrhage are often very difficult. He had had two recurrences from inoculation; of thirty-six cases fifteen have had recurrence.

HOFMEIER, many years ago, had proposed the supravaginal amputation of the portio as a radical proceeding in commencing carcinoma of the portio. It is impossible to clear away all glands; the most important point was to operate as early as possible.

CHROBAK, Vienna, had a case operated on eighteen years ago still free from recurrence.

VON ROSTHORN, Graz, advocated the abdominal radical operation; it was important to prepare for it some time previously by excochleation and cauterisation.

PFANNENSTIEL (*Centralb. f. Gyn.*, 1901, No. 15) looks upon high amputation of the collum as an operation only to be done in exceptional cases. Vaginal panhysterectomy has given him 36·2 per cent. of permanent cures, equivalent to 7 per cent. of all cases seen, of which only 19·5 per cent. were operated on. Carcinoma corporis gave him the best results. Cancer of the neck offers a better prognosis for intervention than cancer of the portio, but becomes much more rapidly inoperable. Of the abdominal operation the mortality is 22 per cent., and nothing is certain as to its permanent results; the only case Pfannenstiel did in Wertheim's way, with free dissection and removal of the iliac glands, was fatal. The limits for the abdominal operation in his opinion should be more strictly confined; more benefit will be derived from earlier diagnosis than from the extension of operative methods.

THE RADICAL OPERATION FOR UTERINE CARCINOMA WITH CLEARING OUT OF THE PELVIS.

MACKENRODT, Berlin (*Centralb. f. Gyn.*, 1901, No. 25), reports upon the various methods of total extirpation he has tried since 1899, and divides the development of his operation into

four stages. During the first, the veins were injured once in four cases and death ensued from air embolism in a couple of hours. Among five cases under the second, a ureter was unnecessarily endangered in one. Five cases were operated on by the third method and four died from sepsis. The fourth method, an extremely complicated abdominal operation, has hitherto (in six instances) not been fatal; whether it is as Mackenrodt believes the only way to convert the abdominal operation for uterine carcinoma from a dangerous complexity of technic into a definite and assured proceeding, remains to be seen from further experience.

CANCEROUS DEGENERATION OF A DERMOID CYST.

WOLFF (*Arch. f. klin. Chir.*, Bd. lxii., Heft. 4), relates the following case from v. Bergmann's clinic: A woman of 21 was admitted for a sacral tumour developed in the past few months. When extirpated this tumour proved to be a simple dermoid cyst free from any malignant degeneration. Six months later a new growth appeared in the same spot as the foregoing and was accompanied by pain; on operation it was found to be a typical epithelioma. Wolff admits that there had been a cancerous degeneration of some remnant of the dermoid cyst left in the wound at the time of the former operation. The case seems analogous to those, relatively not infrequent, in which cancer supervenes on an atheroma which has suppurated and formed a fistula.

The important part that merely mechanical conditions may play in the development of tumours recognised long ago by Virchow has recently been supported by Konstantinovitsch, who found that the spores of lycopodium when injected into the skin produced growths not dissimilar from ordinary granuloma, containing epithelioid and giant cells (*Phila. Med. Jour.*, June 8, 1901).

LARGE FIBROMYOMATOUS TUBAL POLYPUS.

WETTERGREN (*Semaine Médicale*, 1901, p. 232) finds that most cases of fibromyoma of the tube relate to the uterine segment of that canal and are therefore in reality uterine tumours. Of five cases admitted as tubal by Saenger he rejects one, but has found two subsequent ones reported by Jacobs and Rudolf. The majority of these tumours were discovered during operations for ectopic gestation, and the personal observation here recorded is of this kind also.

A multipara of 30 lay-in in June, and her catamenia appeared regularly from the beginning of August till October. On the

21st of the latter month, after over-exerting herself, she felt an acute pain about the cæcum, and for some days afterwards had losses of blackish blood. When admitted to hospital on the 29th she was pale but had no fever. Abdominal palpation revealed nothing abnormal on the right side, but there was a little resistance in the left iliac fossa. Internally, Douglas' pouch was distended, especially to the left, by a tumour of firm consistence. The mammary secretion had reappeared. A diagnosis was made of appendicitis complicated by tubal abortion. Some days afterwards the patient suddenly became much worse and was operated upon without delay. Her abdomen contained blood, liquid and in clots. The tube was divided 2 cm. from the uterus. The appendix, which was also resected, contained an orange pip.

The specimen removed was formed by the tube, enlarged in the middle portion to the size of a lemon; the tubo-uterine orifice was partially closed by a pediculated tumour, firm, rosy-grey on section, which had evidently grown from the submucous or muscular layers. Under the microscope it proved to consist of muscular and connective-tissue fibres with an abundant infiltration, towards its base, of decidual cells, which cells were also present in the wall of the tube.

DILATATION, CURETTAGE AND PROLONGED DRAINAGE OF THE UTERUS IN SALPINGITIS. By BRAUSSENAT and BLUM, *Revue de Gynécologie et de Chir. Abdom.*, November, December, 1900.

The efficacy of the indirect treatment of salpingitis by forcible dilatation of the uterus, followed by curettage and prolonged drainage of the cavity, first pointed out by Walton, has been proved by many gynæcologists; much of its good effect has been attributed to the drainage and still more to the dilatation.

The authors recommend the use of laminaria, perforated so as to allow the free exit of the uterine secretions, in preference to immediate dilatation by Sim's instrument or Hegar's bougies.

The cervix alone is expanded by these instruments, and when their action is over rapidly regains its tone, while dilatation by laminaria affects the whole uterus in a regular and progressive way, softens and supple the neck so as to remove its tonicity, and leaving the canal permanently open ensures prolonged drainage. An expansion, sufficient to permit the forefinger to pass easily through the inner os, may generally be obtained by introducing a series of laminaria of increasing size during a period of from two to four days.

After curettage a large rubber drainage tube is introduced

into the uterus and the culs-de-sac are lightly plugged with strips of antiseptic gauze, so that the tube, cut short at one or two centimetres from the external orifice, may remain in the middle of the vagina. The dressing is changed every other day, and after the uterus has been washed out the tube is replaced by a fresh one of the same or very nearly the same calibre. When, probably between the tenth and twentieth day, the uterine cavity is found to contain nothing but uncoloured mucus, the drainage and intrauterine injections are omitted and one has only to keep up a rigorous vaginal antisepsis for a few days longer. In favourable cases one may at this time find that the adnexal tumours have diminished or even disappeared. The authors have treated nineteen patients by this method. In eleven cases in 1894 they obtained seven definite cures and one which lasted three years; two cases in which the immediate results were excellent were lost sight of, and one was a failure. In three cases dealt with in 1895, one is still cured, another was so for four, and the third for two years. Of the remaining five, four were absolutely cured and the fifth was so for three years. They insist that this method should always be tried before resorting to laparotomy.

DRAINAGE OF THE UTERUS.

FRANKE (Brunswick) in view of the liability of the various forms of intrauterine drainage tubes to be forced into the vagina, employs an ordinary indiarubber pipe which he fixes with a suture in the way usual in draining wounds. Having dilated the canal by means of Hegar's bougies, he passes into the uterus a tolerably large drain 6 or 7 cm. long, into which he has previously passed a catheter; when the tube is in position the catheter is withdrawn and a thick silk ligature is passed through both lips of the cervix so as to secure the tube, and the vagina is then loosely plugged (*Semaine Médicale*, 1901, p. 232).

OVARIAN DISEASE AND INSANITY.

HOBBS (*Amer. Jour. Obst.*, April, 1901) points out that the mental characteristics of a woman conform with the great physiological divisions of her physical existence. Coincident with the physical and mental changes there are changes in the reproductive system—the development of ovulation, the continuance of the ovarian function and its cessation. On the other hand, pathological changes in the ovary cause disturbance of function, and this is succeeded by a series of nerve storms, varying in gravity from localised abnormal sensations to profound mental derangement.

The interdependence of the organ of reason and the organ of

reproduction is clearly shown by the history of forty cases of ovarian disease with complicating insanity, and by the good effects upon the mental condition which followed the surgical treatment of the different ovarian lesions. The diseases were either simple, multilocular, dermoid, or papillomatous cysts, weighing from a few drachms to 15 lbs.; fibroid degeneration, ovarian abscesses, hæmatomas, inflammatory affections and prolapse.

The most frequent type of ovarian insanity is mania, and was met with in over 90 per cent. of these cases. Excitability, talkativeness, restlessness and destructiveness were the main features of the mental disturbance.

Hysterectomy was necessary in seven of the cases; in twenty-four cases single or double oöphorectomy was done, but in the remaining nine a part of one or both ovaries was preserved. Out of the forty cases two died, one from pneumonia on the twelfth day, and one a week after operation from septic pneumonia; as to the subsequent mental history of these cases the results were good. The majority of those who recovered improved rapidly after operation, being well mentally inside of three months. The recovery rate was as follows:—

	Cases.	Recoveries.
Acute mania	10	7
Chronic mania	22	8
Epileptic mania	2	0
Folie circulaire	2	1
Psychocoma	1	1
Acute melancholia... ..	3	2

There were also 10, or 25 per cent., who improved and are still improving.

Of the 19, or 47·5 per cent., who recovered, six had been insane under one year, four between one and two years, one between two and three years, three between four and five years, and four over five years.

The determination of the presence or absence of disease of the reproductive organs should be a *sine qua non* in the early treatment of all insane women.

J. F. J.

VARICOCELE OF THE BROAD LIGAMENT.

SHOBER (*Amer. Jour. Obst.*, May, 1901) insists upon the physiological disturbance of the circulation in the broad ligament which occurs in the sexual relations, during menstruation, and in pregnancy. A varicocele of the ovarian veins arising under these circumstances may be looked upon as an exaggeration of an existing condition, and inordinate sexual indulgence, inflammatory changes, malpositions, &c., may change the physiological condition into a pathological one.

The local causes in their order of importance are :—

- (1) Subinvolution, after labour or abortion.
- (2) Lacerations of the cervix which extend into the broad ligament and causing cicatrices obstruct the uterine and throw extra work on the ovarian circulation.
- (3) Displacements of the uterus and ovaries.
- (4) Chronic constipation.

The symptoms of the varicocele include those attending its cause, but it is significant that they are greatly relieved, and immediately by lying down. The physical examination should be made per rectum; the dilated and tortuous veins can be felt in the broad ligament as a yielding, compressible mass which sometimes may reach the size of a hen's egg.

General constitutional treatment should be tried. The usual operative treatment has been to remove the appendages; this is not necessary, it is quite sufficient to ligature the veins in two places and remove the intervening portion.

J. F. J.

RECURRENT ECTOPIC GESTATION.

CH. SENS (*Thèse de Paris*, 1901, No. 202) has here collected eighty-nine published cases of recurrent ectopic gestation, but rejects twenty-four in which the clinical, operative, or anatomical diagnosis of tubal pregnancy seems to him imperfectly established. His thesis is therefore based on sixty-five well-marked instances of recurrent extrauterine pregnancy. It is therefore evident that a woman who has recovered from an extrauterine pregnancy is to a certain extent liable to a similar accident, and that such recurrence is more common than has been supposed; indeed, according to the statistics of Varnier and the author, in one instance out of four, when conception occurs after the cure of an ectopic gestation, the latter pregnancy is an extrauterine one also. This is contrary to the experience of Bouilly, Legueu and Schwartz, who, in a long series of operations, have never met with a recurrence of extrauterine pregnancy, but have seen intrauterine ones secondary to extrauterine.

In only one of the collected cases (H. C. Coe) did the recurrence take place in the tube previously affected.

The course of the pregnancy in a second ectopic gestation tends to resemble that of the former one; in one instance, for example (Chapot-Prévost), it continued to term with false labour and retention of the foetus.

A third extrauterine pregnancy in the same woman, though possible, has not yet been recorded.

Congenital bilateral malformation of the tubes and peri- or intra-tubal lesions may be factors in the pathogenesis of recurrent ectopic gestation, but in operating for tubal pregnancy

it is quite unjustifiable as a preventive measure to extirpate the adnexæ of the other side when they are normal.

SENS considers that the possibility of recurrence is an important factor in the extended prognosis one is asked for in extrauterine gestation.

THE LOWER UTERINE SEGMENT AND THE CONTRACTION RING.
The Ingleby Lecture. By W. J. SMYLY, M.D., &c., &c.

An exact definition of the lower segment is in the present state of our knowledge impossible, and the nearest approach that I can make to it is in the words of Bayer: "A portion of the uterus which before parturition resembles the body, and after it the cervix." This structural division of the uterus into an upper contracting and a lower distensile portion is of the utmost importance in the mechanism of the first stage of labour; for if the organ were of equal strength throughout, the pressure, which is evenly distributed, would produce no mechanical result. But because the lower part is weaker it yields, and the lower pole of the ovum bulges into it. The upper part is at the same time drawn upwards, there is a slip in opposite directions between the membranes forming the lower pole of the ovum and the walls of the lower segment, by which they are separated from each other, and a little bloody discharge takes place called by midwives "the shows." The elastic membranes cast off from the uterine wall as far up as the contraction ring, and containing liquor amnii, form the bag of waters, which, distended by the pressure from above, is forced into and forms the chief dilating force in the expansion of the os and cervix. Were the membranes exposed to the full force of the contracting uterus they would probably rupture, but they are saved from this by the lower uterine segment. In normal labour the head acts like a ball valve, completely shutting off the forewaters from those which surround the body of the child.

In the third stage the lower segment and cervix form a continuous thin-walled, collapsible tube, which affords no support to the upper segment containing the placenta. The upper part, therefore, sinks down into the pelvis, the fundus usually standing about midway between the pubes and umbilicus. But when the placenta has been expelled from the contractile portion, it distends the lower segment and cervix, and the fundus is lifted up above the umbilicus. When this occurs, the distended lower segment can be easily felt above the pubes, and closely resembles a distended bladder.

These signs are now of considerable importance with regard to the management of the third stage of labour. Some time ago Credé's method was in vogue. It consisted in rubbing and

kneading the uterus to induce contraction, and then expressing the placenta usually with the third pain. It was gradually discovered, however, that this active treatment was frequently followed by *post-partum* hæmorrhage and retention of membranes, and that better results were obtained by waiting until the uterus, having expelled the placenta, remained firmly retracted. It then became an important matter to know when this had taken place, and this we can tell by three signs, two of which I have already mentioned—namely, the rising up of the fundus above the umbilicus, and the bulging of the lower segment above the pubes. The third sign is the protrusion of the cord 5 or 6 inches away from the vulva. This process usually occupies about half an hour, but Ahlfeld, to whom we are chiefly indebted for the introduction of this more expectant method of treatment, urges a further delay of one hour in order to secure the complete separation of the membranes. In my own practice I always expel the placenta as soon as I am certain that it has left the uterus.

In abnormal labour the lower segment may fail to perform its functions, or do so imperfectly. In some pluriparous women, owing to the distensibility of the upper portion of the uterus, no lower segment is formed, and in others its walls are so weak that it is separated from the head by the liquor amnii. The same result may follow if the presenting part does not accurately fit the lower segment, or if, as in pelvic deformity, the head cannot descend into the lower segment and close it by its ball valve action.

Under all these circumstances the membranes are exposed to undue strain and premature rupture. The normal hydrostatic dilator is lost, and the os is more slowly dilated. When the lower segment does not firmly embrace the presenting part as in the cases already mentioned, and also in hydramnios and in placenta prævia, small and movable parts of the fœtus such as its limbs and cord may be driven down. This is the only cause of funic prolapse with which I am acquainted. The sudden rush of liquor amnii which often accompanies the accident is not the cause of it, but results from the same conditions.

Placenta prævia most frequently occurs in women who have borne many children in quick succession, who have had abortions, or who have suffered from menorrhagia and leucorrhœa, in other words, in women suffering from chronic metritis. When the ovum enters the uterus it probably adheres to a part of the mucous membrane prepared for its reception, or slips into a cleft in that membrane; but when the membrane is rendered unsuitable by disease in that part it becomes attached elsewhere, probably lower down, and if this part be not quite

healthy the serotina develops an imperfect placenta insufficient for the needs of the foetus. The placental formation therefore spreads further afield, involving the reflexa, or vera, or both. In this way it may spread not only into the lower segment of the uterus but even into the cervix; and cases have been reported by von Weiss and Ponfick in which it extended to the os externum.

The development of the placenta upon the decidua reflexa explains a number of facts which would otherwise be unintelligible. For example, the extreme thinness of these placentaë and their position are easily understood when we remember the expansion of the decidua reflexa during the growth of the ovum and its union with the vera in the lower segment. In some remarkable cases recently published, though the placenta could be distinctly felt through the os, there was no hæmorrhage during labour. In uterine catarrh the reflexa sometimes fails to unite with the vera, and if this occurred where the placenta had developed upon the former, there would be no vascular connection with the lower segment and therefore no hæmorrhage.

In the vast majority of cases, however, the reflexa and vera do unite, and the placenta derives its vascular supply from the lower segment, and it behaves as a part of the membranes, and is separated from its attachments as far up as the contraction ring. The vessels of the placental site are thus torn through, and violent hæmorrhage is the result. These hæmorrhages usually commence about the seventh or eighth month of pregnancy, slight at first, but recurring with increasing severity. In some cases, however, there is no loss of blood until labour sets in, and these are generally cases of complete placenta prævia, and are probably cases in which, owing to the abnormal resistance, no lower segment is formed during pregnancy. Hæmorrhage is the only symptom, and the chief danger in placenta prævia, and to arrest or control it is the chief duty of the medical attendant, and in order to do so successfully he must carefully consider the conditions which are present.

In placenta prævia it is surprising how easily the cervix and lower segment of the uterus can be lacerated, and the extraction of the foetus is only opposed by a thin and easily-ruptured portion of the uterus, still further weakened by the placental site, and so highly vascular that its laceration would entail a hæmorrhage difficult or impossible to control. It is not easy to understand how hæmorrhage from such a placental site is ever controlled by nature. Hofmeier says that the uterine artery gives off no branches directly to the lower segment, and that the vessels going to it pass through the upper part, and are therefore constricted when it contracts; but this has been denied by Davidsohn and Lahs, and, if they are correct, the vessels can only be closed by the formation of thrombi.

The high mortality which attends placenta prævia is, I believe, due more to a disregard of these important facts and consequent improper treatment than to the inherent dangers of this complication.

The chief causes of death have been hæmorrhage, septic infection, and entrances of air into the veins. Hæmorrhage has proved fatal either from prompt assistance not being at hand or from misdirected efforts to control it, and amongst the latter I would include the extraction of the child through an undilated os, and the use of the vaginal plug, which imperfectly controls the hæmorrhage, and by prolonging the process materially increases the total loss. Its use also increases the risk of septic infection.

The method introduced by Dr. Robert Barnes is more scientific and much more successful than either version and extraction or the vaginal plug, but the separation of the placenta, entailing as it does unnecessary fingering of the placental site, is contrary to our modern views of aseptic midwifery.

The modern treatment is simple and effective and eliminates almost all the risks. It consists in rupturing the membranes and bringing down a foot at the earliest possible moment, the body of the child pressing on the placenta acts as an efficient and aseptic plug, and the membranes being ruptured no further separation takes place. The great advantages of this method are that it completely arrests the hæmorrhage, that it involves but slight manual interference, and that such manipulations as are necessary are conducted within the membranes, that the child is not extracted, but its expulsion is left to nature, so that the cervix is not torn, the uterus remains firmly retracted and the placental vessels securely thrombosed.

The comparative merits of the different methods of treatment which I have mentioned are no longer open to discussion, but are established by ample statistical proofs, and a definite mortality attends the employment of each. In a recent communication Dr. Strassmann says that the mortality in the Charité Hospital, Berlin, in cases of placenta prævia treated by version, by abdominal manipulation, bringing down a foot, and leaving the expulsion of the child to nature, was only 1.45 per cent. Where the same method was adopted, but with bipolar version, 8.6 per cent., and where version was followed by extraction, 20 per cent. The results in the Rotunda Hospital, as published in Dr. Lyle's recent paper in the *British Medical Journal*, showed that out of seventy-six admitted during the past ten years one which was treated by version and extraction died of hæmorrhage. Amongst the remaining seventy-five there were three deaths, a mortality of 4 per cent., but not one of these was from hæmorrhage; two were septic on admission, and one

died from pulmonary embolism on the tenth day. There are two conditions in which the treatment which I have advocated is not advisable—first, where the head has passed the os and can be more safely delivered by forceps; and secondly, where the os is not sufficiently dilated to admit two fingers. In such cases I should advise the plug, but they must be exceedingly rare, for I have never met with one myself, and Doctor Strassmann says that in the Charité the plug was never required.

The lower segment of the uterus is the part most frequently involved in rupture. The accident, sometimes attributed to an abnormal weakness in this part of the organ due to chronic metritis or fatty degeneration, may occur suddenly and quite unexpectedly even before the rupture of the membranes, but as a rule the upper part of the uterus, contracting strongly, retracts over the foetus and drives it into the lower segment, which consequently becomes over-distended and its walls thinned out until at last they give way. The signs of impending rupture are under these circumstances sufficiently evident; on palpation the contraction ring can easily be felt at or above the level of the umbilicus running obliquely across the abdomen. Above the ring the uterus is thick and firm and foetal parts can scarcely be distinguished within it, whilst below, on the contrary, they can be felt with unusual ease. The round ligaments stand out like firm cords, but only one can, as a rule, be felt. Where these symptoms are present any attempt at version would be attended with serious risk; indeed, the mere introduction of the hand in addition to the body of the foetus has determined the catastrophe. The application of forceps would be almost equally dangerous; indeed, under any circumstances the use of this instrument before the full dilatation of the os and before the head has passed the brim is extremely hazardous, and has frequently caused a rupture of the cervix extending into the body of the uterus.

Lastly, there is a form of rupture of the lower segment owing to the crushing and subsequent necrosis of its tissues between the head and the pelvis. It is not so easily recognised as the other forms, because symptoms do not appear until some time after labour. In these cases also the forceps has caused most serious injury, the crushed tissues so easily giving way that part of the entire cervix has been torn off.

THE CONTRACTION RING AS A CAUSE OF DYSTOCIA.

Budin and others have reported cases in which a constriction above a distended portion of the uterus was believed by them to have been the contraction ring. In determining this point we are limited almost entirely to clinical observation, for

the contraction disappears with life, but in a frozen section published by Dr. Barbour the fœtus shows a mark left by the contraction ring. The constriction may occur before, during, or after the expulsion of the fœtus. It has been observed before the rupture of the membranes constricting the bag of waters, and after the waters have escaped obstructing the advance of the head. During the expulsion of the child it may grasp the neck, preventing the descent of the shoulders. In twin pregnancies it incarcerates the second child after the first has been expelled (Budin and Rossa). But the most familiar example is the retention of the after-birth by so-called "hour-glass contraction" of the uterus.

Schatz's observation that the majority of cases of persistent brow presentation are due to the internal os grasping the neck might more properly ascribe them to the contraction ring. The contraction of the ring which immediately follows the escape of the waters is seldom of much consequence, because it relaxes during the interval, and a larger part of the fœtus enters and dilates it during the succeeding pains; but the contraction which occurs after the patient has been long in labour is a more serious cause of dystocia because, the contractile portion of the uterus having become permanently smaller, the relaxation during the interval is only relative, and no advance takes place. Budin delivered the second child, in the case of twins, by forceps with considerable difficulty. And Rossa in a similar case had much trouble in performing version and extraction, and the condition persisting in the third stage incarcerated the placenta. Rossa also states that where the fœtus has been driven into the lower segment, the contraction of the ring above it may determine rupture by traction on the thinned and over-distended wall.

Budin, regarding the stricture as the chief cause of dystocia, advises mechanical dilatation, but Veit, on the other hand, considering it only a part of a general tetanic condition, believes that patience and narcotics will suffice. There are cases, however, in which we cannot wait, and in these the fingers and hand are the best dilators.

The facts I have brought before you prove the importance of a careful study of the lower segment of the uterus and the contraction ring; and if I have impressed you with a serious view of the dangers resulting from ignoring them my task has been accomplished.—(*B. M. J.*, May 22, 1901).

THE INFLUENCE OF PREGNANCY AND CHILDBIRTH ON PHTHISIS AND THE THERAPEUTICAL VALUE OF INDUCED ABORTION.

By KAMINER, *Verein f. inn. Medicin in Berlin*, 3 June, 1901.

The interruption of pregnancy is generally looked upon as justifiable in severe heart disease, but while some authors are

totally opposed to it in cases of pulmonary consumption, others, like Maragliano, are its declared partisans, finding a twofold advantage in the proceeding which protects the interests of the mother and prevents the birth of children predisposed to, if not absolutely infected with, tubercle. Without adopting the last argument, I think it right, considering the serious detrimental influence of gestation and labour on phthisical women, to intervene before term in such cases.

In Senator's Poliklinic I have found that in 33 cases out of 50 (66 per cent.) pregnancy was detrimental, in 8 the patient's condition was not affected; in the other 9 the result was doubtful. The nausea and want of appetite accompanying pregnancy interferes with nutrition; the sickness often causes hæmoptysis, and the pressure on the diaphragm and retraction of the lungs impedes respiration and pulmonary circulation.

The bad effects of labour are evident from the following figures: out of 23 tuberculous women confined 14 (61 per cent.) died in childbed, 7 of them within a few days. In three others tuberculous metastases supervened upon parturition.

Admitted the necessity of intervention, the question arises whether one should resort to induced abortion or premature labour? I do not hesitate to prefer abortion as infinitely the less dangerous of the two, and, moreover, because it is in the earlier months of gestation that the health of the mother is more seriously compromised, and we should terminate gestation as soon as possible.

I have induced 15 abortions, and seen two spontaneous in phthisical women: one died fourteen and another six months later, in 5 the lesions continued to advance. Thirty per cent., therefore, of these cases became worse in spite of the abortion, and 12 per cent. ended fatally; on the other hand the condition in the other 10 patients (70 per cent.) remained stationary.

Favourable as are these results, I do not infer that every pregnancy in a tuberculous subject should be interrupted, but think abortion should be reserved for those cases in which one may hope for a permanent improvement in the pulmonary lesions, those in which the pregnancy is evidently aggravating the disease, and those in which the earliest tuberculous lesions coincided with the pregnancy.

In the discussion: P. JACOB said that of 3,000 cases of tuberculosis collected by him, 970 affected women, of whom 337 were married. In a large number of these latter the tuberculosis had supervened on the pregnancy, and in 84 cases (25 per cent.) gestation had led to a marked aggravation of the lesions; moreover, an accentuated morbid condition had shown itself under similar conditions in 71 patients, among whom 21 had not previously exhibited any sign of tubercle, and the

other 50 had only shown discrete manifestations of the malady. He was, however, less hopeful than Kaminer in regard to abortion, for that proceeding in itself might aggravate the condition of the phthisical. Phthisical persons should perhaps be advised not to marry.

STRASSMAN concurred with Kaminer in preferring to induce abortion rather than premature labour and considered the most favourable time for intervention to be between the eighth and tenth week; before that time the diagnosis was not absolutely certain.

The operation could be completed in from thirty to forty-five minutes. After a hot bath, the cervix could be dilated and the ovum removed at once, and generally without any great hæmorrhage. Indeed, the later the intervention the more is hæmorrhage to be feared: it is therefore better when pregnancy has somewhat advanced to proceed less rapidly by inserting a tampon for twenty-four hours; the embryo is then expelled in two or three days. Strassman pointed out that the opinion of the mother who may desire or may decline to have the pregnancy terminated had not been alluded to. He agreed with Jacob that on the whole it was more prudent to prevent conception in phthisical women.

BERNHEIM, in an article translated by Craig (*Annals of Gyn. and Pæd.*, May and June, 1901), comes to the following conclusions:—

In those predisposed to such infection, pregnancy does not necessarily lead to phthisis, but is the more likely to do so the younger the subject may be. Latent or ancient tuberculosis is not necessarily aroused by a single pregnancy. Where ultimate infection is to be feared marriage should be delayed; in case of past tuberculosis, prognosis as to the results of maternity must be reserved.

The more extensive the tubercular lesions the greater the danger of pregnancy; in miliary tuberculosis it is almost certainly fatal.

A single pregnancy may not aggravate dormant tuberculosis; repeated pregnancies are almost always disastrous even in the curable forms of phthisis.

Childbed and convalescence are particularly trying to the phthisical; lactation should be prohibited.

If existing tuberculosis be aggravated from the first weeks of pregnancy, induced abortion with due precautions is justifiable.

The influence of paternal tuberculosis on pregnancy is *nil*.

FORCED ABORTION.

CLAVERIE (*Thèse de Paris*, 1901, No. 201) bases his essay on 15 forced abortions, many of which were in the service of

Doléris. Whenever the immediate evacuation of the uterus is clearly indicated, that is to say, whenever gestation induces disturbances that resist the usual means of treatment and endanger the life of the pregnant woman, temporisation having been persisted in to the last justifiable moment in the interests of the foetus, induced abortion becomes both unavoidable and urgent, and is therefore better performed in one operation. Forced abortion saves time and loss of blood, and with the strictest antiseptic precautions, both before and afterwards, the cervix should be dilated and the complete evacuation of the uterine cavity immediately effected.

The method adopted by Doléris and recommended by the author is as follows: after thorough antiseptics of vulva and vagina, the cervix is dilated by Hegar's bougies, the uterus is emptied by forceps and curette, the cavity is swabbed out and irrigated, and a tampon of iodoform gauze is inserted.

The instrumental curette is to be preferred to the finger as the latter entails chloroform.

In the 15 cases quoted, most of them performed by Doléris, the indication was given, in one by heart disease, in 3 by serious and repeated uterine hæmorrhage, 7 times by uncontrollable vomiting, once by tuberculosis, and once by eclampsia.

OSTEOMALACIA AND DIAPHORESIS.

SCHMIDT (*Wiener klin. Wchns.*, 1901, No. 27), after a short review of the therapeutic measures employed in osteomalacia, reports two personal observations, both typical puerperal cases, and one being so far advanced as to exhibit changes in the bony pelvis. He submitted them to treatment by hot air baths given with the Phenix apparatus, and in the first case a definite improvement was noticed after nine baths, and the patient, who previously could merely take a few steps in her sick-room, could walk in the roadway without help. In the second and more advanced case also the success was so far good that the woman was again able to manage all her housework. The author suggests that the induction of an intense diffuse hyperæmia of the skin relieves the congestion of the obstructed circulation of the periosteum and bone-marrow, and that possibly organic acids may be got rid of in the sweat. Though the pathogenesis of osteomalacia is still so obscure there appears to be some prospect of its successful treatment.

HEINSIUS, Breslau, reports a case of osteomalacia affecting a woman of 35, the mother of four children. Her bones collapsed after much pain in the hips and great weakness. Phosphoric acid was tried in vain, but castration was successful. Her

symptoms were not materially aggravated by pregnancy, but were very decidedly so by menstruation.

ECLAMPSIA AND ITS PATHOGENESIS.

DIENST, Breslau (*Centrab. f. Gyn.*, 1901, No. 19), publishes a preliminary report of the results of his investigations of the pathological anatomy and of the conditions of the urine and blood of eclamptic mothers and their infants, and suggests a theory for the disease not entirely hypothetical. Mother and child suffer alike sympathetically, and the changes in the blood and internal organs characteristic of eclampsia are found in the foetus as well as in the mother.

The essential factor in eclampsia is inadequate action of the maternal eliminating organs (kidneys and liver). This may be due to insufficient functional capability of the maternal kidneys or of the maternal heart, or to both causes combined. The result of such deficiency is an accumulation of the metabolic products of the foetus. These products cause an alteration in the blood, of which the most notable element is an increase in the percentage of fibrin. The presence of an excess of fibrin in the maternal blood leads to coagulation, to the formation of very many forms of thrombosis, and also, in consequence of the chemical alteration of the blood, to secondary degenerations of tissue. This theory elucidates the occurrence of eclampsia without albuminuria.

DYSTOCIA IN HEAD PRESENTATIONS DUE TO EXCESSIVE SIZE OF THE THORAX AND SHOULDERS OF THE FŒTUS.

SAINT-MARTIN (*Thèse de Paris*, 1900, No. 101), points out that dystocia from excessive size of the shoulders was first scientifically investigated by Jacquemier, who, in a memoir presented to the Academy in 1851, laid stress upon the obstacle to delivery through the normal pelvis sometimes caused by the width of its shoulders, and recommended, as a means of diminishing the bis-acromial diameter, traction on the armpits so that as the labour proceeded one or both arms should be brought down. In *contracted* pelvis bringing down of the arms and making traction upon them had previously been recommended by various authors for the living child and also for the dead one after basiotripsy.

Another mode of reducing the size of the shoulders mentioned by Frederico, Phenomenoff and Strassmann, cleidotomy, the division of one or both clavicles, was recently the subject of an article by Bonnaire (*Presse Medicale*), 1900.

If the shoulders should be forced together forwards and the clavicles be difficult of access, Bonnaire recommends recourse

to a minor embryotomy, a supra-acromial section of the musculo-cutaneous attachment of the arm by dividing the soft parts lying above the stump of the shoulder between the acromion and clavicle on one hand and the neck on the other; this does not lessen the bis-acromial diameter, but allows it to pass diagonally through the pelvic canal, the shoulder so cut following the other.

Cleidotomy does not affect muscular tissue nor subclavian vessels and may be done on the living child, but this supra-acromial section, like every embryotomy, is limited to dead foetus.

If the infant be alive, St.-Martin prefers to resort to symphyseotomy; if dead, to decapitation, so as to reach and bring down the arms and deliver by traction. This is the practice adopted by Bar, and from measurements made by himself the author concludes that preliminary decapitation causes more diminution in the bis-acromial diameter than cleidotomy under the same conditions.

CRAMER, Bonn (*Münch. med. Wchns.* 1901, No. 2), believes that the application of forceps in the high position may be avoided by impression of the head in Walcher's position, and that this is the proper way to decide whether the passage of the undiminished skull *per vias naturales* is possible or not, and, if unsuccessful, gives an absolute indication for perforation, symphyseotomy, or Cæsarean section. Narcosis is indispensable, and the finger tips or the closed fist should be laid on that half of the skull which can be felt above the pelvis; if the head slips into the smaller pelvis, delivery should be at once completed with the forceps. There is a certain risk of rupture of the uterus or of the symphysis, and of fracture of the child's skull, but Cramer holds the danger of rupture of the uterus to be slight, as the method can hardly increase the tension of the lower uterine segment, on the contrary relieves it.

SUDDEN DELIVERY.

WILLHAUER, Eisenach (*Münchener med. Wchns.*, May 21, 1901), reports the following case as of special forensic importance.

A II.-para, nine months gravid, had severe capillary bronchitis after tonsillar diphtheria; when he saw her for the second time she was seated on a night-stool, and said that she had taken a large dose of chest medicine (*Brust-pulver*) which had just had great effect, and moreover that she felt as if she was in labour. When she was got into bed he made a vaginal examination, and was surprised to find an umbilical cord torn off about 6 cm. from the placenta, which was arrested

in the introitus vaginæ. On inspecting the night-stool he found a well-developed female child head downwards in the pan, which was half full of water; the child was of course drowned. The woman was quite unaware of her delivery and had only had the sensation of having had a copious evacuation. The parents, most respectable people, had been most anxious for another child, as the former one, about four years old, was very delicate; and the mother's distress could only be relieved by the assurance that the child must have been dead before birth or could not have been born so suddenly. Childbed was perfectly normal.

LACERATIONS OF THE CERVIX IN LABOUR.

LUDWIG, Vienna (*Wiener klin. Wchns.*, 1901, No. 19), after reviewing in detail the cognate published cases, discusses the mechanical factors which may lead to abnormal stretching of the vaginal vault during labour. He points out, however, that the causes of laceration may lie in local anomalies, and that such lacerations happen much oftener in women who have previously borne children than in those who have not. Injuries of the bladder and of the peritoneum are among the most serious complications of these lacerations; further, prolapse of intestine or omentum, and escape of the placenta and fœtus through the wound into the abdominal cavity. In regard to prophylaxis, it is most important for any woman with a pendulous abdomen to take to her bed directly labour pains come on, and that her pendulous abdomen should be elevated; and that any operation to which it may be necessary to submit her should be performed under narcosis. When laceration has occurred the chief points are to arrest hæmorrhage and prevent sepsis. In some cases, as in those described by the author, extirpation of the uterus may be necessary.

CÆSAREAN SECTION AS AN OPERATION OF CHOICE.

VEIT, Leyden (*Hegar's Beiträge*, Bd. iv., Heft. 2), enunciates the principle that Cæsarean section when selected as an operation of choice should, like prophylactic version, have no mortality. The decision upon the relative indications between it and other operations depends upon the conscientious examination of the obstetrician only; the mother has merely to acquiesce. Veit has done four sections under Schleich's anæsthesia (solution No. 2), which he considers has advantages over chloroform narcosis. In the interest of antisepsis he altogether abstains from eventration of the uterus. He adheres to the longitudinal incision, and to escape atony of the uterus, postpones operation till the pains have begun. To guard against infection, he admits the patient into his clinic three weeks before the term

of pregnancy, and makes no further exploration, not even at the commencement of labour, but operates as soon as regular contractions can be recognised externally; the decision to undertake Cæsarean section has therefore to be made during the pregnancy. The question of symphyseotomy *versus* Cæsarean section is not yet finally decided, and in many an instance must depend upon external circumstances. The same is true of the perforation of the living child, which is frequently merely the result of neglect on the part of the laity.

PORRO'S OPERATION.

PESTALOZZA (*Centralb. f. Gyn.*, 1901, No. 28), in a communication to the Tuscan Society for Obstetrics and Gynæcology on June 6, discussed the indications which twenty-five years' experience has given us for Porro's operation when the removal of the uterus is supplementary to a Cæsarean section. In this sense hysterectomy on account of rupture of the uterus is not a Porro's operation; on the other hand, every abdominal hysterectomy is to be recognised as a Porro if it be done to complete a Cæsarean section, whether it be done in the old way with extraperitoneal, or in the new and improved way with retroperitoneal, treatment of the stump, and whether the hysterectomy be total or partial.

He divided the indications into five groups:—

- (1) Morbid conditions of the uterus or its contents.
- (2) Extreme narrowness of the soft parts of the genital canal.
- (3) Osteomalacia.
- (4) Obligation to sterilise the patient.
- (5) Circumstances subjective to the operator.

Among the first are included (a) sepsis of the uterus or of its contents (Pestalozza once operated for putridity of the waters); (b) atony of the womb after Cæsarean section (Pestalozza once operated for this reason, but thinks that by the transverse fundal incision and the omission of any preventive hæmorrhage on account of premature separation of the placenta (less often in case of detachment of the placenta from its normal site and, exceptionally, in placenta prævia, in which, as a rule, conservative treatment is better); (d) uterine fibroma (Pestalozza has twice in such finished a Cæsarean section by panhysterectomy); (e) uterine carcinoma (if inoperable the uterus may be removed to avoid such dangers as might arise from puerperal sepsis; if operable Pestalozza, who has so treated one case, holds this method to be the best and least distressing); (f) ovarian tumours, but only if, in performing Cæsarean section and removing the tumour, the uterus has been seriously injured (and this

more particularly when the ovarian tumours are bilateral); (g) simultaneous intra- and extra-uterine pregnancy, as in a case of Franklin's.

(2) To the second group belong cases of contraction of the vagina: (a) congenital stenoses; (b) acquired, and especially cicatricial, stenoses. In a case of this kind Pestalozza had occasion to operate on the jubilee day of Porro's operation, May 21, 1901. The patient had from her first and very difficult labour contracted a complicated vesico-vaginal fistula, with destruction of the urethra, which had been cured by operation. Two months later she conceived, and although the contraction of the pelvis was not such as to make delivery *per vias naturales* impossible, Cæsarean section was, nevertheless, necessary to avoid interference with the success of the operation for fistula, and, since the external cicatricial contraction of the vagina was an obstruction to the discharge of the lochia, the uterus was removed. In this operation Pestalozza adopted the common method of sub-total extirpation, that is, he ligatured the arteries, separated and divided the cervix at the level of its insertion into the vagina. He considers this to be the best way of doing a Porro except in cases of sepsis uteri, fibroma, or carcinoma.

(3) In pronounced osteomalacia, if the child cannot be born *per vias naturales*, the Porro operation is the only thing to be done, for castration has by no means such a good effect as is to be expected from hysterectomy.

(4) As regards sterilising, the operator will not let himself be in any way influenced by the wish of the mother. It is, however, only when after a Cæsarean section the uterus is found to be in an abnormal condition (adhesions, fistulæ, &c.) that a Porro should be done for this purpose, otherwise there are less drastic ways of sterilising a woman.

(5) As conservative Cæsarean section is now a simpler operation than that of Porro, there is no excuse for preferring the latter on the ground of its easier technic; there must be special circumstances to justify such preference.

THE SEAT OF THE PLACENTA IN THE GRAVID HUMAN UTERUS:
THE ORIGIN AND EVOLUTION OF THE SYNCYTIIUM. By
WINKLER, *Archiv f. Gynäkologie*, B. lxii., S. 366.

The origin and evolution of the histological structures surrounding the blood lacunæ of the placenta have been much contested. Briefly speaking, the anatomy of that region is as follows: on the fœtal side the blood spaces are lined with a layer of nucleated protoplasm without any appearance of segmentation into distinct cells, and which, for that reason, is called *syncytium*; outside this is the zone of Langhans' cells, which is itself covered by connective tissue stroma of the

chorionic fringe; on the maternal side the blood spaces are likewise lined with syncytium, beyond which we find the decidua with its countless round and polyhedral cells and then the uterine muscular tissue.

In the superficial layers of the muscular tissue, and also in the decidua, Winkler has found large protoplasmic plates with many nuclei, true giant cells, with all the staining reactions of syncytium, of which he considers them to be the formative elements, and the more so as they become more plentiful the nearer they are to the syncytium; these plates he calls accordingly "syncytoblasts." These cells are endowed with migratory and amoeboid properties by means of which they gradually find their way to the surface of the decidua in the interior of the blood spaces, which they gradually cover both on the maternal and foetal sides. In order to do this they may be seen stretching out and elongating and thrusting out processes, their nuclei in the meantime undergoing multiplication. The physiological significance of syncytium would accordingly be the same as that of intravascular endothelium.

Up to the middle of pregnancy both syncytium and the cells of Langhans display signs of great activity, but from the fifth month one may observe in the decidua lines of tissue in process of degeneration which are known under the name of Nitabuch's fibrinous tracts. Winkler thinks there is no deposit of fibrin but rather hyaline degeneration of the stroma and of the elements of the decidua. At this time too, the syncytium and the cells of Langhans degenerate, break up, and gradually disappear, and to such an extent that towards the end of pregnancy the decidual cells are the only elements which have preserved all their vitality.

BACTERIOLOGICAL AND CLINICAL CONDITION IN FEVERISH AND NORMAL CHILDBED.

VOGEL, Würzburg (*Zeitsch. f. Geb. u. Gyn.*, Bd. xiv., Heft 3), after detailing the precautions with which he obtained samples of secretions from the cavum by means of a special intrauterine speculum, concludes as the result of his investigations that: The process of obtaining such samples is, with proper precautions, harmless to the woman; germs are to be found in the uterus of a vast majority of feverish puerpera, and when found the fever is generally associated with some clinical abnormality in the genital tract. In such cases there is generally congestion, which is easily, but not always, caused by some lateral version of the uterus to the right or left. When there is congestion care must be taken to ensure a free discharge by inducing contraction of the uterus, and the washing out of the cavity by means of Weinhold's catheter should not be unduly delayed, and may

perhaps be followed by an injection of 20 per cent. carbolic alcohol. Laceration of the cervix favours the ascent of bacteria into the uterus, and therewith the fever. Small wounds of the genitals encourage the development of germs and greatly increase the danger; a thorough preliminary cleansing is therefore imperative. In the early days of childbed in normal parturients the uterus is free from germs, but such—even the streptococcus—may be there without causing any symptoms. Later in childbed germs are more commonly found in the secretion in normal cases and are much oftener unaccompanied by symptoms. Streptococci are comparatively seldom present in women without fever.

WADSWORTH (*Amer. Jour. Obst.*, April, 1901) writes: Uncontaminated specimens of the secretions from the uterus or any portion of the vagina may be easily obtained in a convenient form for examination. The technique is as follows: A thin, small bore, glass tube, flared slightly at the ends, is drawn out to a constriction at a point one-fourth of its length; this allows a steel rod, a few centimetres longer than the tube, to run readily in the lumen. A swab of absorbent cotton is twisted on one end of the rod and protected by the glass tube, which is plugged with cotton at both ends; the tube is then sterilised in a pipette case, and after removing the cotton plug from the swab end, is ready for use. Its introduction is quite simple; at any desired depth the secretion may be collected by thrusting forward the swab, which is immediately drawn back into the tube; the apparatus is then removed, the exposed end passed through the flame, replugged and taken to the laboratory. When the secretion is thin and profuse, care is necessary in the withdrawal of the tube, to avoid any of it flowing into the lumen of the tube. Owing to the nature of the comparatively few organisms more commonly present in puerperal infections, a sufficiently accurate diagnosis may be quickly and readily made. The acid vaginal secretion during pregnancy almost always contains living, though for the most part harmless, micro-organisms. Recognised pathogenic species are seldom and, as a rule, but temporarily present. Pathological reactions are rarely excited by these organisms, which only become harmful on entrance to the uterus, or through injury to the vaginal mucosa. Though certain gross and microscopical appearances of the vaginal secretion indicate pathological conditions, they only suggest, with a variable degree of probability, the presence or absence of pathogenic organisms. This can only be accurately determined by bacterial examination. Exceptionally, pathogenic bacteria may remain alive and maintain their virulence in the vaginal secretion during pregnancy and through labour. Since in the lochia the conditions for the growth and maintenance of virulence of the pathogenic organisms

are more favourable, and the puerperal uterus is more exposed and vulnerable, those cases in which the natural resources of the vagina have failed and the bacteria persist require energetic antiseptis.

The ordinary flushing by a douche does not insure a sterile vagina. This can only be accomplished by the same methods, with obvious modifications, which are used for the skin and hands. The natural protective resources of the vagina are impaired by the simple vaginal douche, and the pathogenic bacteria are better able to establish themselves and may even be imported into the vagina by careless manipulation. Routine vaginal douching before and after labour is irrational and ineffective.

The alkaline secretion of the uterus, including the cervix, under normal conditions, is free from bacteria. The pregnant and puerperal uterus is usually so also, but after the first few days of the puerperium organisms are more often present in the uterus. Bacteria from other parts of the body occasionally invade the uterus.

The pathological reactions excited by bacterial growth in the cavity and tissues of the puerperal uterus, as well as the remote manifestations in other parts of the body, are the result of either toxæmia or infection. All toxæmias of the puerperium are not bacterial; changes in the exudates, blood clots, &c., occurring independently of the growth of micro-organisms, may give rise to products which, on absorption, induce an intoxication. The *Streptococcus pyogenes* is the most frequent and virulent of the pathogenic bacteria associated with puerperal infection. The staphylococcus, *B. coli* co., gonococcus and *B. aerogenes capsulatus*, are also important. The morbid processes and lesions induced in the uterus by bacteria may be modified, and even determined, by the degree of contraction of the uterus, which may favour or retard invasion, and by the condition of its tissues, which may, or may not, be suitable for the growth of the micro-organisms; these processes and lesions, however, depend greatly upon the nature and virulence of the bacterial species. The different forms can only be distinguished in the early stages by bacterial examination.

The uterine douche, like the vaginal, is inefficient, and its indiscriminate use may do serious harm. In toxæmias not due to pathogenic organisms, the effects of uterine douching are immediate, and attended by little danger. In the intoxications and infections excited by pathogenic organisms the processes may be aggravated or disseminated by the douching. The danger of this is greatest in the first days of the puerperium, when the exposed tissues and sinuses offer the least resistance. If the presence of the pathogenic bacteria is established then, as

the clinical manifestations develop, indications for radical operation may be more accurately determined early in the disease. The indications and contra-indications for curetting are the same as those for uterine douching.

The use of antistreptococcus serum in puerperal infections, where organisms other than the streptococcus are often present, is irrational.

The routine management of cases should be freed, as far as possible, from all procedures which interfere with the natural resources of the body, and in the few exceptional cases requiring interference should be determined and directed by the bacterial examination.

J. F. J.

PUERPERAL FEVER FROM LATENT MICROBIC ENDOMETRITIS IN PREGNANCY AND ITS PROPHYLAXIS. By ALBERT. *Archiv. für Gynäkologie*, Bd. lxxiii., Heft. 3, 1901.

The bacteriological investigation of all cases of puerperal fever has been the rule at Dresden for some years, and already, in 1898, the author found gonococci in the lochia of one-fourth of such cases. Their detection is not easy and required in many cases repeated examination, ten times over or oftener.

In addition to gonococci, certain pus-forming and other microbes may exist on the endometrium of pregnant women, cause no symptoms at all before labour, or but very slight and subjective ones, and nevertheless lead to puerperal fever and the death of the mother after childbirth. Albert considers the following facts established by his own experience: Every vagina contains germs, but if any others than Doederlein's bacillus be found in "normal" secretion the vagina furnishing it must be considered diseased; the cervix and uterus are liable to infection by vaginal germs at any age, but more so after menstruation is established, and such infection of the vagina, cervix and uterus is apt, after running a short, slight, acute course, to become chronic and latent. A latent microbic endometritis of this kind does not prevent conception, and to such an infection existing before conception we may attribute most cases of abortion and premature labour, especially septic abortion as well as the so-called post-abortion endometritis, many of the common disorders of pregnancy and many diseases of childbed, perhaps also many pathological changes in the placenta, such as infarct formation, abnormally firm adhesion, &c., and perhaps also nephritis, hyperemesis, and even eclampsia.

If all this be so, the indication for prophylaxis is clear, and by keeping the vagina in all cases free from infective germs, we shall succeed in improving the statistics of puerperal disease.

Antisepsis and asepsis in labour and childbed have given us

brilliant results, but, as Leopold has pointed out, the prevention of puerperal fever has not been so successful as might have been expected, and this is now explained, the attempts to check or diminish it were made too late.

Albert suggests the following prophylactic measures: (1) every woman should wear closed combinations or drawers, otherwise germs of the street or floor must reach the genitals, especially owing to the present fashion of long dresses. Any existing infection of vagina, cervix or uterus must be most carefully treated; (2) during pregnancy any discharge must meet with extra care, perhaps by rest in bed till all trouble disappears; (3) during labour the antiseptic and aseptic precautions should be observed as strictly if possible as in a hospital; (4) during childbed the system will be fortified against infectious disease by good nourishment and complete rest in bed for at least seven days; the body should repose at an angle of from 20° to 45° to prevent any accumulation in the vaginal fornix. All the maternal functions can be carried out in this position and retroflexion of the uterus is less likely to recur than in the horizontal one.

F. E.

BUDIN, at the Académie de Médecine, July 9, 1901, said that if fever in a woman recently confined was accompanied with clots in the uterus, whether foetid or otherwise, it was sufficient to remove the clots and wash out the cavity of the womb, but if there was any alteration of the uterine mucosa, above all at the site of the placenta, one ought at once to proceed under anæsthesia to clear out the uterus with the finger and then mop out the cavity. If intervention be not too long postponed the woman, as a rule, gets well rapidly, but if the infection has existed for some time, germs or toxins will have found their way into the system, and recovery will be delayed. On the other hand, in case of childbirth or abortion several days after rupture of the membranes, should the liquor amnii be foetid the uterus should at once be cleared with the finger and afterwards mopped out.

In Tarnier's Clinic, between November 1, 1900, and June 30, 1901, thirty-three women already infected were admitted; in four simply washing out the cavity of the womb after digital examination arrested the mischief; in the other twenty-nine the uterus was mopped out after being cleared with the finger, and only one died. Infection occurred after admission in fifty cases, but all recovered; 1,137 women lay-in or aborted without a single death from sepsis.

NOTES.

PROFESSOR LUIGI MANGIAGALLI, Director of the Obstetric and Gynæcological Clinic at the University of Pavia, has been nominated a member of the Supreme Council of Public Instruction for the Faculty of Medicine.

DR. FRANCIS NEUGEBAUER, Director of the Gynæcological Clinic of the Evangelical Hospital at Warsaw, was appointed, on May 28 last, a Foreign Corresponding Member of the Academy of Medicine of Paris.

DR. H. EHRENFEST, formerly Assistant in Professor Schauta's Clinic in Vienna, has been appointed Consulting Gynæcologist to the City Hospital, St. Louis, Missouri.

DR. REUBEN PETERSON succeeds Dr. J. N. Martin as Professor of Obstetrics and Gynæcology in the Ann Arbor University of Michigan.

AT Bordeaux Dr. Anderodias has been nominated *professeur agrégé* in Obstetrics; so also Dr. Fabre at Lyons, Dr. Demelin and Dr. Potocki at Paris.

AT Grenoble Dr. Termier has been made, for the usual nine years, Deputy-Professor of Pathology, Clinical Surgery and Obstetrics; Dr. Lardenois has received a similar appointment at Rheims.

MUNICH.—The Direction of the Gynæcological Policlinic of the University in Reisingerianum has been intrusted to *privat-docent* Dr. Adolf Klein.

THE new gynæcological pavilions of the Broca Hospital, recently opened, comprise a dispensary, four large wards containing 44 beds and several smaller ones containing 18; eight of the smaller wards have one bed only. Rooms are provided adjoining the wards for changing dressings, and adjoining the operating theatre, for the instruments, for sterilising, for giving anæsthetics, and for special aseptic operations. The theatre

has a balcony for visitors as well as seats for students. The installation is in every way up to date. Professor Pozzi is the Surgeon-in-chief.

"STREPTOSIS," "staphylosis," "spirillosis," "plasmodiosis," and "bacillosis" are among a number of new terms suggested by Petruschky for the improvement of our ætiological nomenclature, and the encouragement of a more exact bacteriological diagnosis.

AN almost unique case of duplication of the appendix, large intestine, rectum, uterus, and vagina, met with in a child of 10 years old, a patient in the Surgical Clinic at Jena, is related by Grohé. (*Deutsche Zeits. f. Chirurgie*, Bd. lvii., Heft 3.)

"PRACTICAL Midwifery in Primitive Culture," a most interesting paper contributed by Mr. F. C. Shrubbsall to the *St. Bartholomew's Hospital Journal*, is abstracted in the *British Medical Journal*, May 18, 1901, p. 1217.

AN interesting case of gonorrhœal myositis, in which the gonococcus was found in the muscular tissue, is reported by Ware, who believes that the condition is often overlooked or its ætiology misunderstood. (*Amer. Journ. Med. Sci.*, July, 1901.)

A PRIMITIVE pessary in the form of a hard uneven spherical body, was removed from the vagina of a woman of 55, by Jampolski. It was made of longitudinal strips of young birch bark, wound up and woven into the shape of a ball, and had been inserted ten years previously, to remedy a prolapse. (*Shurnal akusherativa*, 1901, No. 9.)

THE entire number of the *Bulletin Médical*, No. 85, 1900, is taken up with the description of the Chapot-Prevost case of thoraco-xiphopagus. The separation of this double female monster, at the age of seven years, was so far successful that one individual survived. There are photographs and radiographs of the children, showing their attachment, involving not merely ribs and breastbones, but a large portion of the liver. The surviving child was shown at the Academy of Medicine in Paris.

UPON May 21, twenty-five years after the first "amputazione utero-ovarica come complimento di taglio cesareo," the pupils and friends of Professor Porro, by whose name the operation is universally known, took the opportunity of its Jubilee to present him with a gold medal in recognition of the benefits his method had conferred on suffering womankind. In 1876 Cæsarean section

was still looked upon as a most hazardous proceeding, and the woman who, to save her child, would submit to it was a heroine. At the Vienna clinics no operation of the kind had been performed since the time of Baer; and at Prague, then a renowned school of obstetrics, every case since 1844 had been fatal to the mother. Porro could not at all foresee that all adverse criticism—and feeling ran so high that criminal proceedings were threatened—would soon be set aside by his brilliant successes, that his operation would successfully relieve osteomalacia, and lead to such improvement in the conservative methods as to make classical Cæsarean section itself hardly dangerous to the life of the mother.

The invitations to this festival in his honour met with cordial and unanimous approval, a satisfactory proof of the general recognition of the great service Porro rendered by devising his method.

THE French National Periodical Congress of Gynæcology, Obstetrics, and Pædiatrics will assemble for their third meeting at Nantes on September 23-30, under the general presidency of Dr. Sevestre, of Paris, who will also preside over the Section of Pædiatrics. Dr. Segond, of Paris, will be President of the Section of Gynæcology, and Professor Queirel, of Marseilles, of that of Obstetrics. The questions to be considered in the Section of Gynæcology are: (1) Congenital antelexion of the uterus as a cause of sterility, and its treatment; (2) causes favouring ectopic gestation; (3) dystocia due to fibroids. In the Section of Obstetrics the programme is: (1) Rupture of the uterus; (2) inversion of the uterus; (3) the fate of prematurely-born children; (4) the uncontrollable vomiting of pregnancy; (5) radiographic measurement of the pelvis. In the Section of Pædiatrics the following questions will be discussed: (1) Arthritis in children; (2) meningitic manifestations in the course of digestive infections in childhood; (3) intermittent albuminuria in the child; (4) the defence of childhood (pueri-culture, suckling, weaning); (5) conservative methods in the treatment of local tuberculosis; (6) scoliosis, its treatment by kinesitherapy (movement cure).

*SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS. NOVEMBER, 1901.*

CONTRIBUTIONS ON GENITAL ATRESIA. BY NAGEL, VEIT, SAENGER, H. STRATZ, G. GROSS, PINCUS, collected by R. LABUSQUIÈRE. *Ann. Gyn. Obst.*, August, 1901.

NAGEL, in 1896, advanced the idea and laid down as a rule in cases of well-developed single uterus, that every atresia or complete occlusion of the vagina was acquired and not congenital. In his opinion hæmatosalpinx would constitute a proof that an accompanying atresia was not congenital, both the hæmatosalpinx and the atresia being merely successive effects of one and the same inflammatory infectious process, and he believed atresia to be much more frequently acquired than congenital.

VEIT also looks upon hæmatosalpinx as merely a late effect of the infectious process which originally produced the genital atresia; the blood, imprisoned above the atresia, finding its way up the uterine canal into the Fallopian tube, the abdominal opening of which becomes occluded by a microbic inflammatory process, such as takes place in other forms of salpingitis.

SAENGER, on the other hand, does not consider infection as an indispensable factor in producing occlusion of the tube or even peritoneal adhesions, and quotes a case of congenital atresia of the vagina in a girl 16 years of age, necessitating a cœliotomy for hæmatometra and hæmatosalpinx, in whom the ovaries presented marked old and recent adhesions, together with other indications of inflammatory processes which, although in this instance they did not produce occlusion of the tubes, were as capable of producing it as the adhesions of the ovaries, and he concludes that the blood expressed into the peritoneal cavity is sufficient in itself to produce pelvi-peritonitis, peri-oöphoritis, adhesive peri-salpingitis, and finally occlusion of the abdominal os of the tube and hæmatosalpinx.

STRATZ, in a recent work, also contests the opinion that hæmatosalpinx and occlusion of the abdominal os of the Fallopian tube are necessarily the result of a microbic inflammatory atresia. He cites two cases in support of his contention, in one of which the uterus and vagina were double, with congenital

atresia of the vagina belonging to the system affected with hæmatosalpinx ; in the other, a normal uterus with normal right appendages, but with an hæmatosalpinx and ovarian adhesions on the left side. The improbability of infection from below was corroborated also in both cases by the absence of any history of such an infection having taken place.

GROSS, discussing the cause of the blood collecting in the Fallopian tube, concludes that it may be due to a reflux from the uterus each time the uterine end of the tube is permeable, but that when the uterine os is occluded, the hæmatosalpinx may be attributed to hæmorrhage within the tube.

PINCUS accepts without restriction the Nagel-Veit theory that the greatest number of atresia are acquired or, in other words, due to some infective process. In a somewhat mild case of typhus fever under his own observation, a strong young girl of 17 was seized, in the third week, with severe pain in the abdomen on the right side, just above the symphysis pubis ; after palpation, without any examination of the genital organs, this pain was attributed to a menstrual molimen, such as she had felt before her present illness. The patient died the same evening, and her case was then diagnosed as "congenital retro-hymeneal atresia, hæmatometra, probably hæmatosalpinx, and spontaneous rupture of the tumour." The history of the case as given by her mother was as follows : she had had scarlet fever four years previously, followed by anæmia and the appearance of a leucorrhœal discharge, accompanied with clots. In view of this history, Pincus felt justified in altering his former diagnosis into that of "atresia produced by scarlatina, with subsequent hæmorrhage." He relates another case of retro-hymeneal vaginal atresia due to an ulcerative process also developed during an attack of scarlet fever, which he cured by incising the hymen and separating the adherent vaginal walls. He also mentions the cases of four sisters of from 4 to 10 years affected with hymeneal atresia, and a brother with phimosis, due most probably to gonorrhœal infection at birth, or possibly to the use of a common bath sponge. Finally he formulates the following conclusions :—

- (1) The thesis of Nagel and Veit, notwithstanding certain theoretical objections, is correct from a practical point of view, and experience shows that the majority of well-marked gynatresia are acquired and should be looked upon as avoidable.

- (2) A systematic examination should be made of all newborn children to detect malformation, gonorrhœal or other infection, &c., and in order to provide timely and suitable treatment.

- (3) Whenever the mothers are known to be affected with gonorrhœa, prophylactic and antiseptic treatment should be provided for the children immediately after birth.

(4) Hæmorrhage from the genitals of new-born girls should not be accepted as precocious menstruation, which is very rare, but rather as probably due to gonorrhœal infection, which may sometimes appear in a very mild form.

(5) Even in girls about the age of puberty a discharge of blood should not be looked upon as necessarily an appearance of the menstrual flow. Should the discharge not reappear, or should some vicarious hæmorrhage or leucorrhœa, or prolonged amenorrhœa supervene, an examination should be made.

Pincus distinguishes between *transitory hæmatosalpinx* due to displacements, disturbance of the circulation or some peritonitic adhesion, and a *persistent form of hæmatosalpinx* in which peritonitic adhesions predominate, and which he considers to be due to bacterial infection. In the former condition he endeavours to evacuate the contents of the tumour *per vaginam*, in the latter by cœliotomy.

P. Z. H.

POLYPI OF THE MEATUS URINARIUS IN WOMEN.

LEROY (*Th. de Paris*, No. 82, 1900-1) on the basis of seven cases of these polypi, none before published, says: These polypi of the urinary meatus may be as large as a pea or hazel-nut, and have a pedicle of varying size; they are situated on the lower part of the urethra, 2 or 3 millimetres from the orifice, and, as a rule, all or nearly all the elements of the mucosa share in their formation, and it is not unusual for more than one to do so. They are most frequently found in women between 20 and 30 years of age, but are met with in older women, and even in young girls. They give rise to hypogastric pain, dysuria and retention, and to sanguineous discharge. They must not be confounded with prolapse of the urethral mucosa, though often the cause of such and present with it. They are likely to lead to complications, cystitis, &c., and should therefore be removed, independent of the trouble they themselves give rise to. The best method of getting rid of them is the resection of the end of the urethra, as proposed by Dr. Delagenière of Tours. This not only prevents recurrence, but allows the simultaneous radical treatment of the polypi and any associated urethrocele or prolapsus.

ON OPENING AND DRAINING THE BLADDER IN WOMEN. By HOWARD KELLY (*Amer. Jour. Obst.*, July, 1901.)

The bladder is emptied and the patient put in the knee-breast position. A catheter is introduced allowing the air to rush in and distend the bladder. The anterior vaginal wall is thus stretched and can be exposed by lifting up the posterior wall. A small sharp-pointed knife, attached at almost a right

angle to a handle, is now plunged through the vesico-vaginal septum in the median line at a point about $1\frac{1}{2}$ centimetres in front of the cervix. The bladder is thus opened and by drawing the knife down towards the urethra the incision is made any desired length. The bladder mucous membrane is stitched to the vaginal mucous membrane to prevent too rapid healing of the wound. This operation may be done without any anæsthetic at all, or under the local influence of cocaine.

J. F. J.

REFLEX CATAMENIAL PSEUDO-APPENDICITIS.

Compt. Rend., January, 1901. Paris.

M. J. CUCHE DE SAACY has observed three cases of exposure to cold during the menstrual period resulting in acute abdominal pain below the umbilicus, nausea and vomiting, and arrest of the menstrual flow. The uterus was enlarged, hard, congested, but not very painful, indeed there was hardly any pain in the uterus or appendages, but in the cæcal region and in MacBurney's point the pain was intense, extending along the colon with all the appearance of appendicitis. The temperature was about 38.5° C. twenty-four hours after the onset of the symptoms. Anodynes internally and externally, abstention from food and purgatives after the pain had been relieved caused all symptoms to disappear within seventy-two hours. In two of the three cases the menstrual flow did not return until the next month, in the other it reappeared immediately after the purgation.

P. Z. H.

ON CURETTING THE UTERINE MUCOSA OF PATIENTS ATTENDING THE OUT-PATIENT DEPARTMENT.

BOOKOEMSKAVO (*Vratch*, 1901, No. 39) says that in the year 1901, 5,593 patients attended his out-patient room, and curetting was performed 154 times, in 2.75 per cent. of the number. In 116 cases it was for fungous endometritis and endometritis following upon abortion; in 35 for recent abortion; and in 3 for diagnostic purposes. The endometritis was completely cured in 116 cases; in 14 cases some metrorrhagia remained which was cured by the injection of a solution of iodine (Grammatiki solution). The presence of salpingo-oöphoritis when the tubes were not thicker than a finger and ovaries not larger than a pigeon's egg, was not accepted as a contraindication against curetting. In 2 cases after curetting for abortion the hæmorrhage recurred, but a second curetting put everything right.

The abortions were operated upon immediately, but the cases of endometritis were prepared for the next day, a piece of iodoform gauze being introduced for twenty-four hours. In

half the cases Hegar's dilators up to sizes 9 and 10 were introduced to enable the curette to be used; every possible antiseptic precaution was taken. The iodoform gauze was not passed into the uterus except in inflammatory cases for purposes of drainage. The patients, after curetting, were kept on a couch for three to four hours and a bladder of ice placed upon the abdomen; they were driven home and went to bed for four days, when they returned to the clinic. The results were so good that the author has continued his practice and has done several dozens already this year.

F. E.

RETRO-DEVIATIONS AND THEIR TREATMENT.

FEHLING, Strasburg (*Deutsche Klinik*, Bd. ix., S. 57) in discussing the treatment of backward displacements of the womb, declares that they should as a rule be treated immediately, but not before, they exhibit symptoms. As a prophylactic measure, therefore, every woman after childbed, at term or premature, should be examined before she is released from medical supervision. For movable retroflexion pessary treatment is usually sufficient. The Alexander-Adams is the best way of dealing with the exceptional cases that require operation, but is nevertheless unsuccessful in from 10 to 15 per cent. The backward displacements in which reposition is prevented by firm adhesions of the uterus or of the adnexa to the posterior wall of the pelvis, in which attempts to reduce the uterus under anaesthesia, massage, overloading (*Belastungs-therapie*) &c., which are altogether forbidden in purulent or gonorrhœic processes in the adnexa, are of no avail. In such cases the choice lies between ventrofixation (preferably the Leopold-Czerny) and vesicofixation. To avoid mistakes in neurotic cases, great care is necessary in determining the indications for operation.

SURGICAL TREATMENT OF RETROVERSION OF THE UTERUS.

MARTIN, of Chicago (*Phil. Med. Jour.*, June 15, 1901), considers that the troubles arising from suture material have been the cause of the numerous modifications of the Alexander operation. He describes an operation for this condition which he claims is superior to all others because it ensures a uniform shortening and firm fixation of the ligaments without ligatures, and hence without the formation of fistulous tracts. It seldom causes pain at the traction. He has performed 61 cases up to September 29, 1900, with 7 cases of pregnancy, 6 of which passed through a normal labour, and 1 aborted without apparent cause. He describes the operation of ventral suspension as first practised by Olshausen and then by Kelly. If the

suspension is accompanied by an absorbable suture the operation will often fail. Fowler's suggestion of suspending the uterus from the urachus was a distinct advance. Martin prefers to use a strip of peritoneal tissue which is not so firm as the urachus, also, the urachus may be absent or in some cases it remains pervious from the bladder-end. He has done 173 operations by his method of suspension by this peritoneal strip. No permanent buried sutures are required. The abdomen is opened in the Trendelenburg position, the uterus is freed and also the posterior surface of the broad ligament. The uterus is then brought forward and a strip of peritoneum is dissected free from the abdominal wall one-half inch wide and three inches in length. A needle is passed through the uterus at the fundus from behind forward. The strip of peritoneum is grasped and drawn through and the free end sutured by small catgut sutures to the peritoneal surface of the abdominal wound above the uterus. The uterus is also temporarily held forward by small catgut sutures. In 173 cases there have been 9 failures, including 6 deaths.

GOFFE, of New York, remarks that a misconception of the dynamics of the female pelvis is the cause of much of the wrong treatment of retro-displacement. The symphysis pubis is on a lower level than the tip of the coccyx in the normal condition. The uterus lies on its anterior face and is held in place by its ligaments. The perinæum is not a support. The most important ligamentous supports are the utero-sacral ligaments plus the utero-vesical ligaments. The ideal operation for the restoration of the uterus to its normal position is by means of the utero-sacral ligaments. If these cannot be used the round ligaments are next best, and then ventral suspension. He is opposed to the operation which involves opening of the abdominal wall for the cure of retroversion. He denounces Alexander's operation *in toto*.

GORDON, of Maine, protests against this so-called conservative surgery. After removal of the appendages the uterus is a gestation bag without subsequent use. He would therefore remove the uterus in these cases.

GOLDSPOHN, of Chicago, claims that the round ligaments are the only structures that can be rationally used for the cure of this condition, because they are part of the uterus. The uterus has "arms," and these arms should be used. The round ligaments are wedge-shaped, longer near the uterus than at the abdominal wall. When the round ligaments are folded upon themselves the thick part is used and the weak part left. Alexander's operation is better because it does away with the weak position of the ligament.

KELLY, of Baltimore, insists that the ventral suspension is

more rational than the operation of shortening the round ligaments. These ligaments, in the normal condition, are always flaccid structures, with a kink in them. He has performed 214 ventral suspensions. Forty-three of the patients became pregnant without trouble following. In most cases the uterus remained in good position.

A CASE OF RUPTURE OF THE UTERUS, AND ONE OF CÆSAREAN SECTION, IN LABOURS AFTER VENTRAL FIXATION.

DICKINSON (*Amer. Jour. Obst.*, July, 1901) reports the above: In the first, ventral fixation had been done in February, 1899, by another gynæcologist, and at term version was performed on account of a tumour obstructing delivery. After three weeks of sepsis the patient was seen by Dickinson, in a sinking condition, with peritonitic exudate surrounding a rent four inches wide running from the external os to the right cornu of the uterus and splitting the broad ligament into the peritoneal cavity. The uterus extended half way to the umbilicus, its fundus was fixed to a scar above the pubes, and its posterior wall was thin and relaxed. The anterior wall was two inches thick and ran from the top of the scar half way back across the pelvis and almost transversely. The patient died.

In the second case the ventrofixation had been done four years before the pregnancy. On examining the abdomen the right ovary and tube could be felt high up, to the right and in front. The left ovary and round ligament, however, instead of being at the same level, lay along Poupart's ligament. The external os was jammed against the middle of the first sacral vertebra. On pulling down the anterior lip and examining the cervix, the finger, passing four inches into the cervix, failed to reach the internal os. The uterine wall, facing downward into the pelvis, was one and a half inches thick. As the pains were ineffectual and it was impossible to dilate the cervix, Cæsarean section was performed. There were twins. Owing to the abnormal stretching of the uterus, to the fundus running obliquely from the upper right angle to the lower left and to the twins lying in "a bay window made entirely out of the right lateral and posterior wall of the uterus," the incision was really in the posterior uterine wall. The patient died in twelve hours of late shock.

In conclusion Dickinson says, "I have seen, even in neurotic and hyperæsthetic patients, such comfortable pregnancies and labours following Alexander operation, that I look with favour on shortening the round ligaments in young women with otherwise intractable, uncomplicated, non-adherent retroflexions, nor do I hesitate to resect ovaries and tubes through the inguinal ring."

J. F. J.

TOTAL EXTIRPATION OF THE UTERUS AND VAGINA FOR PROLAPSE.

MIRANDA (*Archivio di Ost. e Gin.*, July, 1901) describes August Martin's method of extirpating the uterus and vagina for prolapse with one case of his own:—C. D., aged 63, widow, fairly developed and of rather spare habit, had suffered from no disease as a child, but had been obliged to work very hard upon insufficient food. She menstruated first at 14, with a very free flow and some pain in hypogastric region. At 24 she married, was badly used and suffered from ulcers and blenorragia; she had had three children, all born at term, and her lying-in had been normal on each occasion. Ten years after the last delivery, which took place when she was 30, she noticed a reducible tumour in her genitals. It increased in size and caused her much trouble in walking and standing, and very great difficulty in passing water, so as to interfere greatly with her life of hard work. The uterus and ovaries were atrophied, the prolapsed parts were ulcerated to such an extent that Miranda considered extirpation to be the only suitable treatment, and he did it in the following manner:—A circular incision was made round the vaginal orifice, passing just behind the urethral orifice and along the insertion of the hymen to the posterior commissure of the vulva, and from this incision anterior and posterior vertical incisions were made up to the insertion of the uterus into the vagina. The anterior incision had to deviate a little on account of the ulcerations. These flaps were dissected off until they were hanging merely by the uterine cervix. He found that with care and avoiding the use of cutting instruments as far as possible, this could be done without much difficulty or loss of blood. Posterior cœliotomy was then done and the skin incision sutured to the peritoneal flap. The uterus was extracted posteriorly and the bladder worked off it from above. The uterus was removed by ligature and the rest of the peritoneal flaps united by suture to the skin.

The vagina was occluded transversely up to the urinary meatus and the perineal floor reconstituted by three layers of sutures from side to side; the bladder had not been injured, and the case did very well without any bad symptoms.

This operation is more radical, and when done aseptically is quite as safe as excision of the vagina only. It removes the uterus and tubes and thus does away with the possibility of future trouble in these cavities, but it ought not to be done except in severe cases, and where the patient has lost the sexual instinct and the capacity for coitus may be disregarded.

F. E.

LUMBAR ANÆSTHESIA.

TRZEBICKY, Cracow (*Wiener klin. Wchns.*, 1901, No 22), has, in 138 cases, induced spinal anæsthesia by means of injecting

cocaine chloride, or, in a very few instances, eucain, into the canal, and in 103 cases with complete success. The anæsthesia generally reached as high as the navel and sometimes a little above the level of the nipples. The failure of the desired effect often depends entirely upon individual peculiarities, and the surgeon cannot be sure of his ground beforehand. The symptoms of intoxication were repeatedly fearfully severe: vomiting, convulsions, loss of consciousness for several hours, paralysis, &c.; moreover, in many cases, vaso-motor disturbances. In its present form, the method can in no wise take the place of inhalation narcosis, and should only be attempted in well-organised institutions; not at all in private practice. It may be employed in operations on the lower extremities or pelvis, and for hernias, but not for all kinds of laparotomy. Extreme caution is indicated by weakness of the heart's action.

The conclusions to be drawn from an important discussion on the Bier method of surgical analgesia by intrarachidian injections of cocaine, in which MM. Snyers, Lebrun, Hendrix, Depage, Gallet, Dandois, Verhoogen, Vince, Lorthioir, &c., took part (*Ann. Soc. Belge Chir.*, Mars, 1901, *et seq.*) may be summarised as follows:—

(1) Cocaine in doses of 1·5 to 2·0 centigrammes (0·23 to 0·31 of a grain) made into a 1 per cent. solution, and injected slowly into the lumbar region of the spinal canal after a small quantity of spinal fluid has been allowed to escape, acts locally upon the lumbar portion of the cord, producing an anæsthesia of the inferior portion of the body extending a little above the umbilicus, without affecting the superior nervous centres, commencing from five to twenty minutes after the injection, and lasting about an hour.

(2) Shortly after the injection the pulse becomes small and accelerated for a very short time; the normal condition is re-established in about eight or ten minutes.

(3) In about 20 per cent. of the cases, symptoms of nausea and vomiting may be observed, and sometimes a sensation of malaise and profuse perspiration, but these are very transient symptoms and of little importance, unless the injection has been too concentrated, or made too rapidly, or the dose has been too large.

(4) As the pulse increases in frequency in about 40 per cent. of the cases, there is a sudden rise of temperature, sometimes even to 40° C. (104° F.) This is occasionally accompanied by violent shivering. But these symptoms are not of prolonged duration and hardly ever persist beyond eight hours.

(5) Headache is one of the most constant and persistent consequences of these injections, and the one most complained of by the patients. In the majority of cases it is slight, but in some it has lasted three or four days after the operation.

(6) Morphine and opiates diminish the intensity as well as the duration of the anæsthesia, and they likewise constitute the best means of combating the painful symptoms which follow cocaineisation. Phenacetine is also useful to allay the headache. An important observation made by Tuffier showed that after injecting an overdose dogs' lives could be saved by maintaining artificial respiration until the effect of the cocaine had been dissipated; and he inferred that a patient's life after an overdose could in the same way be saved by prolonged artificial respiration. Injections of caffeine are useful in syncope.

(7) Anæmic and debilitated cases are good subjects for medullary cocaineisation; affections of the heart, large blood-vessels and lungs, obesity, or alcoholism are no contra-indications to its use, as they often are to that of chloroform and ether anæsthesia.

(8) Syncope, or a tendency to it, has sometimes occurred in patients who have not kept the horizontal position for some time after the operation.

(9) There are certain disadvantages in this method compared with ether and chloroform anæsthesia. The muscles remain uncontrolled, the patient retains consciousness, and being able to observe what is going on the ordeal of the operation is thus made more serious in nervous and impressionable subjects, and the discussion of any question relating to the operation must be avoided, owing to the moral depression and worry it might cause to the patient.

M. SNYERS reported a case of excision of the breast and curettage of the axillary space under the lumbar anæsthesia. The excision was performed without pain to the patient, but the dissection of the axillary space was painful. Replying to various remarks on this case, M. Snyers said he reported it as a fact he had observed, but could not satisfactorily explain, except by pointing out that the anæsthetic effect was not uniform even below the umbilicus, certain zones being but slightly affected, and consequently certain isolated zones might be affected above the umbilicus. He reiterated his observation that the mammary gland was quite insensible, but the axillary region was not.

M. LEBRUN had seen one case only in which the anæsthesia had extended so high up; he was inclined to attribute that effect to the injection having been pushed too forcibly and to no spinal fluid having been allowed to escape. In this case alarming symptoms occurred, but entirely disappeared within twenty-four hours. His experience of a morphine injection after the operation went to show that the morphine dissipated all the disagreeable symptoms caused by the injection, except the headache, which often persisted.

M. DANDOIS related a case of external urethrotomy, per-

formed under intrarachidian cocainisation, which progressed very favourably until the eighth day. Symptoms of paraplegia then set in, followed by insomnia, and delirium of a violent nature increasing in severity for a month, at times simulating mania, at others dementia, without any increase of temperature whatever. The symptoms, however, gradually disappeared in the course of another month, and the patient recovered. M. Dandois did not hesitate to attribute these accidents to the cocainisation.

P. Z. H.

CONSERVATIVE GYNÆCOLOGY AND POST-OPERATIVE SEQUELÆ.

OASTLER (*Amer. Jour. Obst.*, August, 1901) reviews 200 cases of complete hysterectomy and double salpingo-oöphorectomy, and 150 cases of more conservative operations, extending over a period of eight years.

In the complete hysterectomy cases, the nearer the age of the patient to the normal climacteric the less the discomfort of the artificial menopause. The route selected, whether abdominal or vaginal, seemed to make no difference in the post-operative sequelæ. Suppurative disease was followed by much severer sequelæ than new growths. The original symptoms of the disease were, in nearly every case, relieved, but a sense of general physical weakness, which failed to disappear with time, was complained of in nearly all cases. There was an average increase in weight of 25 lbs. Hot flushes were universal and lasted from periods of four months to eight years, 30 per cent. lasting over four years. Headache, malaise, and palpitations of the heart were common. Seventy-five per cent. of the patients complained of constantly increasing nervousness. Pseudo-menstrual symptoms occurred at the regular monthly periods. In the majority of cases the sexual desire was gradually diminished, in a few it was increased and in 15 per cent. it remained unchanged. Post-operative vaginitis, with smarting and burning, was common.

When the ovaries were removed and not the uterus, the post-operative results were more unsatisfactory than when the complete operation was performed. Several patients had subsequently to be curetted and some to submit to hysterectomy.

In cases of conservative surgery of the ovaries and tubes it was found that the original symptoms were removed in the vast majority of cases, secondary operation being rarely required. The artificial menopause did not occur; menstruation continued, though sometimes diminished in amount. Pregnancy resulted in one case in five. The marriage relations were not interfered with.

The chief conclusion drawn is that the symptoms of the artificial menopause occur with more regularity and greater severity and duration than is generally supposed, and that it is therefore important to avoid the artificial menopause even at the risk of a second operation.

J. F. J.

PERITONEAL ADHESIONS.

KATOONSKI (*Vratch*, 1901, No. 29) points out that Gersuny was the first to consider peritoneal adhesions otherwise than as secondary to the organs with which they were connected, or the inflammatory processes to which they were due, or of which they constituted a stage. From study of Gersuny's writings, as well as those of Martin, Schauta, Hegar and Kaltenbach, and Winter, he believes that (1) peritoneal adhesions generally, as well as that typical form first described by Gersuny, have very great significance in the study of diseases of the peritoneum and abdominal viscera, including the internal genitalia of women; (2) it is desirable that the most painstaking clinical research should be directed to the investigation of special peritoneal adhesions in order to elucidate their influence and results, to systematise their clinical syndromata, to formulate objective signs for diagnosis, and determine appropriate treatment; (3) the grave significance of these adhesions makes it imperative to determine their absence or presence in every case of abdominal section; (4) in view of the topographical anatomical peculiarities of certain peritoneal adhesions and of the possibility of their escaping detection in the diagnosis of other diseases of the abdominal organs or tissues, it is indispensable when there is any suspicion of their existence, to choose that method of operation which will facilitate their removal and therewith the relief of the sufferings of which they are the cause, otherwise surgical intervention may give no real relief, and therefore (5) the ascertained or suspected existence of peritoneal adhesion may be considered a contra-indication to vaginal cœliotomy.

F. E.

AMPUTATION OF THE PORTIO VAGINALIS AND ITS EFFECTS.

GRÄFE (*Munch. med. Wchns.*, 1901, No. 28), discusses the evil effects which not unfrequently follow the amputation of the portio vaginalis. After Schroeder's operation (excision of the cervical mucosa), as well as after the excision of large wedges, it is not uncommon for the portio to disappear entirely, or at all events for the part left after operation to contract and shorten to a very considerable extent. This condition may induce a disposition to premature labour, and on the other hand makes orthopædic treatment of an established or commencing retro-

flexion impossible. Moreover a stenosis of the external os frequently supervenes and leads to sterility and dysmenorrhœa, or to protracted labour in case pregnancy does occur. Nor is it unusual for the stitches to lead to inflammation of the ligamenta sacro-uterina, or of the peritoneum, and the chronic troubles of such para- or perimetritis are a warning to us against undertaking this operation without grave consideration. Every effort must be made to relieve erosion and hypertrophy by approved conservative treatment (scarification, tampons of glycerine of ichthyol, caustics and the relief of obstipation, &c.), according to the circumstances of the case. Even in case of operation for prolapse he deprecates amputation, in such attaching much more importance to the fixation of the uterus. Stringently operation is not directly indicated, save in the rare cases of phalloid enlargement of the portio, until conservative treatment has failed. And then the wedges excised should, on account of the shrinking to be expected, not be too large; the new formed portio should still be larger than normal size. Concurring with Fritsch, he condemns the unbridled desire of many operators to excise every erosion of the portio on the ground that such may become the seat of a carcinoma. Naturally erosions which do not soon heal under suitable treatment must be kept under close observation.

PERITONITIS FROM PERFORATION PRODUCED BY COITION THREE MONTHS AFTER TOTAL VAGINAL HYSTERECTOMY.

B. MODLINSKI (*Vratch*, 1900, No. 35, and abstracted in *La Gym.*, April 15, 1901, Paris), relates a case as above in which the perforation occurred during coition in the cicatrix of the vaginal cul-de-sac from hysterectomy performed three months previously, the most prominent symptoms being those of strangulation of the intestines engaged in the wound. Under immediate treatment the peritonitis remained localised and soon disappeared.

P. Z. H.

ON THE ORIGIN OF MYOMA UTERI.

SANTI (*Annali di Obst. e Gin.*, April, 1901), who has carefully studied the researches of previous investigators, and has himself made many microscopical examinations of myomatous uteri, gives some very convincing drawings of his specimens. He points out that the presence of many tortuous and spiral arteries about a myoma is not now supposed to have the important bearing upon the development of the tumour which Gottschalk was inclined to give it, nor is Keiffer's observation that certain vessels are found deprived of their adventitia of very much

importance, but that Roesger's demonstration of the different origin of the muscular fibres of the uterus and the vessel walls is of great value. Myomata are found chiefly in the uterus, tubes, ovaries, vagina, dartos, intestine, prostate, &c., but pre-eminently in the uterus. What particular character of uterine muscle causes this? Is it the capacity of the uterine muscular fibres to increase in size and number during pregnancy?

Cohnheim's theory of aberrant embryonic tissues is not applicable here because there is no new tissue in the question, but simply an alteration of character of the tissue present.

Cordes found some little nodose elevations in the muscular lamellæ and made them the origin of myoma. No other observer has seen these nodules, which were most probably due to faulty methods of staining, &c.

Kleinwächter and Müller found that the capillaries always terminated in a muscular fascet, and this is taken as proving the origin of the muscle cells from the vessel walls, but Santi demurs to this interpretation and considers that the fascet of muscle fibres is simply some protoplasmic prolongation which precedes the true formation of the capillaries and finally become muscular fibre.

To Roesger's view that the arrangement of the fibres about the vessels is a proof of the origin of the myoma from the muscular coats of the vessel, he objects that it is a proof of exactly the contrary, because there are more circular than longitudinal fibres in the vessel walls and therefore the myoma arranges itself against the prevailing tendency of the fibres of the vessel wall.

Tridondani says the myoma fibres are developed from the muscular coat of the arteries, and Gottschalk thinks that the myoma grows from a large and tortuous artery, which is often found cut several times in one section, but Santi points out the presence of tortuous and spiral arteries as normal in the uterus. Claisse, finding some vessels presented swollen and deformed endothelial cells with local changes in the vessel wall about this spot, contends that these changes are the early phases of myoma formation in the uterus.

Santi declares that he has found no fact, no reason, to convince him that myomata arise from the vascular tunics, or that they form exclusively within the latter; he is inclined to believe the contrary, that myomata arise from the uterine muscle fibres owing to the peculiar characteristic of aberration of these muscular fibres. He finds groups of deeply staining muscle cells in the uterine wall to be the young newly formed nuclei of myomata. These groups often have no relation to vessels; the small capillaries and vessels often found in them can be recognised as new formed vessels. The lumina of such vessels

are always irregular, and present swollen and projecting endothelial cells. New vessels always form and must form wherever there is a new growth or the growth could not grow. He never saw any tendency to obliteration of these vessels even when the growth was all about them.

The absence of elastic fibres scattered among the tissue of the myoma is one of the strongest facts against the origin of myomata from the vessel walls in which such fibres are very abundant. F. E.

HÆMORRHAGE IN FIBROMYOMATA AND UTERINE POLYPI.

ALVERNHE (*Th. de Paris*, No. 96, 1900-1) suggests that hæmorrhage may depend on the pathological histology of the tumour, (2) on the disturbance of uterine circulation by the presence of the tumour, and finally (3) that in a more advanced condition the uterine mucosa undergoes alteration, is affected by secondary endometritis, and so becomes the seat of hæmorrhage, and that this is far the most frequent cause of such hæmorrhage.

Fibromyomata may soften or degenerate, may suffer from partial necrobiosis of their muscular or connective tissue, lacunæ may form, the vessels may be exposed and give way, filling the cavity with blood; and in their turn the sacs may rupture and empty their contents into the uterine cavity. Virchow and A. Martin have described how a tumour, developing into a teleangiectatic fibroma, may cause notable hæmorrhage, hæmorrhage connected with disturbed circulation in the uterus. Stasis of the vascular system of the uterus may be induced by fibromyomata. The most common cause is the secondary endometritis (Wyder and Campt.)

The treatment of hæmorrhage is given as follows:

(1) Rapid measures: (i.) Injection of very hot water; (ii.) vaginal tampon; (iii.) Intrauterine gelatine, plugging.

(2) Drugs: Ergot, hydrastis c., cannabis i., antipirin, digitalis, gossypium, H_2O_2 , pencils of zinc chloride, antipyrin, salol, injections H_2O_2 , and opotherapy.

For the treatment of the tumours he mentions: ergotine, hydrastis, cannabis i., phosphorus, arsenic, opotherapy, massage, electricity, hydrotherapy, curettage, dilatation, resection of neck (bilateral), ligation of uterine arteries, extirpation.

CALCIFICATION OF UTERINE FIBROMYOMATA.

GUIBE (*Ann. Gyn. Obst.*, July, 1901) points out the frequency with which calcified fibromata are found at autopsies on old women, and their rarity under clinical observations in patients under 40 years of age. Subserous and interstitial fibromata

far more commonly (4 in 5) undergo calcification than sub-mucous and polypous growths, probably owing to the latter being more efficiently vascularised. The calculus is generally (80 to 95 per cent.) composed of the tribasic phosphate of lime, sometimes (5 to 15 per cent.) of the carbonate, and rarely of the sulphate. The almost constant absence of the ammonio-phosphate of magnesia forms a remarkable and characteristic difference from the renal or vesical calculus. The author cites three cases by Wedl, Müller, and Feuchtwanger, in which centres of true ossification were observed along with calcification.

The symptoms are often obscure, and differ little or not at all from those of an ordinary fibroma; but in the majority of cases pain, compression, and discharge will characterise the condition. The pain varies in intensity, it is sometimes slight, but sometimes agonising, radiating in the loins, the anus and perinæum, the external genitals, and the inferior extremities. The symptoms of compression may vary from those of a unilateral sciatica to those of paraplegia; there may be œdema from venous compression and interference with micturition and defæcation from pressure upon the bladder and rectum, and in some cases ulceration causing perforation into the latter cavities. The discharge observable may be hæmorrhagic, mucous or purulent, and may contain fragments of calcified products, the latter condition being pathognomonic of calcification.

Treatment.—Certain cases, especially in elderly women, and causing little trouble, may be left to nature; but in cases in which complications of intestinal obstruction or peritonitis arise, and where symptoms of compression are on the increase, hysterectomy should be performed without hesitation, unless after dilatation of the uterine canal, a submucous calculus should be found so loose as to be removable by means of the curette.

P. Z. H.

ON PRESERVATION OF THE OVARIES AND FUNCTIONATING UTERINE TISSUE IN HYSTEROMYOMECTOMY.

BEYEA (*Amer. Jour. Obst.*, September, 1901), with the view of saving healthy ovaries, or parts of such, and sufficient of the body of the uterus to provide a mucous membrane which can perform the functions of menstruation, instead of amputating the uterus at the level of the floor of the pelvis, practically at the internal os, carries his incisions through the body of the uterus as far up as is consistent with complete removal of the fibroid or fibroids. This operation is of course only applicable in those myomata which "destroy the upper three-fourths, two-thirds, or less of the uterine body, and when tubes and ovaries to either side are normal." A case is reported in full in which, after the opera-

tion, menstruation occurred regularly every twenty-eight days. The flow was limited, corresponding in fact to the diminished endometrium. The general health has remained excellent. The author would apply it whenever possible in women under forty years of age.

J. F. J.

CONSERVATIVE SURGERY OF THE UTERUS AND ADNEXA IN THE TREATMENT OF FIBROMATA.

DARTIGUES (*Th. de Paris*, No. 385, 1901), after a review of the various conservative operations employed in the treatment of fibromata, gives a detailed description of cervico-vaginal hysterotomy, the method adopted by Segond for the vaginal enucleation of sessile, submucous, and interstitial fibrous tumours.

The possibility of enucleating fibromata from the muscular tissue of the uterus was recognised by Velpeau in 1833, and some years later the idea was carried out by Amussat, who divided the cervix on each side, drew down the uterus, and when the fibroma was a large one bisected it, so as to be able to shell out the two portions successively. Like many other operations conceived before the era of antiseptics, this one soon fell out of practice, and when again taken up by some gynaecologists in other countries was only done in a few isolated cases up to the time when morcellement, so beneficially employed by Péan, materially enlarged the possibilities of enucleation. Nevertheless vaginal myomectomy by morcellement was very soon almost entirely superseded by total hysterectomy, vaginal or abdominal.

Of late years there has been a reaction in favour of the more conservative operation, and in the course of a prolonged experience Segond became convinced that very many uteri submitted to morcellement for removal might well have been treated in a less radical manner, and came to consider lateral cervico-vaginal hysterotomy to be the operation of election, inasmuch as it admits of the enucleation of tumours situated very high up, and the morcellement of interstitial masses weighing up to 1,000 or 1,200 grammes, while it does not expose the ureters to danger nor, like median vaginal hysterotomy, require the detachment of the bladder, or the opening of the peritoneum.

Segond's method is based on the fundamental principles of those of Amussat and Péan, that is to say, the division of the cervix, enucleation, and morcellement. The division of the cervix through the labial commissure, on one or both sides, is limited in extent by the accessibility of the tumour, but is carried far enough to afford plenty of room and is made without any thought of preventive hæmostasis as regards the uterine arteries; in this first stage, the cervix being drawn down

to the vulva, the commissure on one side is divided with scissors up to or beyond the isthmus, the wound encroaching if necessary upon the corresponding side of the corpus uteri for nearly all its length; when bilateral, that transversal cervico-vaginal hysterotomy divides the uterus in its lower segment into two valves which allow the introduction of the finger or instruments without difficulty. After the exploration of the uterine cavity, which constitutes the second stage of the proceeding, comes the morcellement of the tumour, exposed by the putting its capsule on the stretch, and it is in this third stage that the only difficulty may be met with, for if one has not learnt to distinguish by touch between the consistence of a fibroma and that of the uterine muscular tissue, one is liable to pass through the latter and come upon the intestine. The toilet of the uterus follows, the cavity and depressions from which the tumours have just been enucleated are carefully plugged with strips of sterilised gauze, and the operation is concluded by the suture of the cervix, unless it be preferred to leave the cavity gaping for the sake of free drainage.

Among the twenty-five observations quoted there was not a single death. In eighteen one might say there was no loss of blood during the operation; in the other seven the loss varied, but was always easily controlled and was finally arrested, in two by compression forceps, in two by the suture of the cervix, and in the remaining three spontaneously.

ONE HUNDRED CASES OF SUPRAVAGINAL HYSTERECTOMY FOR MYOMATA.

WESTERMARK (*Hygieia*, January, February, 1901), records the details of sixty cases of supravaginal hysterectomy for myomata, making, with forty previously published, a series of one hundred of which one only had a fatal termination; death in that instance was due to pulmonary embolism, in a woman suffering from phlebitis of the iliac veins and fatty degeneration of the heart, and was not due to the method of operation. For narcosis, in the absence of contra-indications, Westermarck uses chloroform to commence with and ether afterwards. After opening of the abdomen, the broad ligaments are seized in forceps and divided on each side of the uterus as far down as the bladder; the peritoneum is dissected off the anterior wall of the uterus in the form of a flap convex above; the uterine arteries are secured in forceps and after the supravaginal amputation of the uterus are carefully isolated and tied; the cervical canal in the stump is well cauterised, the tubes removed and the utero-ovarian arteries tied. The ovaries unless diseased are left. The peritoneum is closed over the stump by

a transverse suture of catgut. The exudations, hæmorrhagic or otherwise, which in three instances formed about the stump, were absorbed locally or found a ready exit through the cervical canal.

ON THE LATER RESULTS OF SUPRAVAGINAL HYSTERECTOMY FOR MYOMA, AND OF CASTRATION FOR DISEASE OF THE ADNEXA.

SCHENK (*Archiv. f. Gyn.*, Bd. lxii., S. 455) reports that in Rosthorn's Clinic the immediate mortality after supravaginal amputation of the womb for myoma was only 3·25 per cent., that is, 4 deaths in 123 cases. Of the 119 survivors 94 have responded directly or indirectly to his enquiries, and of these 87 were not suffering and were satisfied with the results of the operation. The disorders of the artificial menopause had affected 64 per cent. of those below 40 at the time of the operation, and only 35 per cent. of those above that age. The capacity for work was perfect in 54 per cent., diminished in 22 per cent. Direct examination of the uterine stump disclosed nothing abnormal, save a few slight exudations and one instance of cancerous degeneration. This last is the twelfth case of the kind published; such degeneration is therefore so rare as not to justify the abandonment of an operation so benign as supravaginal hysterectomy.

As regards total ablation of the internal genital organs in women suffering from pelvic infections, there were 4 deaths in 65 cases: of the 61 women who survived 31 have been seen or have reported their condition, and of these women 90 per cent. were able to work; the artificial menopause had caused serious trouble in 15 per cent., and slighter disturbance in 45 per cent., but there had been no distressing symptoms at all in 39 per cent. At the time of writing, that is to say about two or three years after operation, among the old cases of operation, there are 3 per cent. in which the troubles continue serious, and 45 per cent. in which they are but slight. Without at all suggesting that the abdominal radical operation should always be adopted, Schenk thinks it will well bear comparison with other methods, and especially denies Fritsch's statement that it leaves half its patients infirm.

A METHOD OF OPERATING UPON INTRALIGAMENTOUS AND SUBPERITONEAL FIBROIDS.

PRYOR (*Amer. Jour. Obst.*, July, 1901) points out that fibroid nodules in the folds of the broad ligaments, or between the bladder and the uterus, or beneath the peritoneum, behind that organ, cause such an amount of fixation as to render the approach to the arteries exceedingly difficult, and such disturbance of the regional anatomy, that injury to the bladder, ureters,

and rectum is not easily avoided. The indications then are to restore the mobility of the uterus and such symmetry of the parts that the anatomy of the pelvis will approach the normal. Mobility can be secured by performing hemisection of the uterus. Fibroid nodules lying in the path of the section, if small are dug out, if large are bisected. Upon the removal of an anterior or posterior nodule the uterus, if fixed thereby, will become movable, and the displacement of the rectum by the posterior nodule, or the distortion of the bladder by the anterior, will be done away with. But if both broad ligaments, or even one, be occupied by a fibroid nodule, the fixity of the parts is maintained, and the displacement of the ureter and pelvic vessels constitutes a grave complication. In such cases, Pryor supplements the sagittal section of the uterus, after the uterine cavity is laid open, by a bilateral or unilateral incision to suit the case, this incision passing through the uterine wall so as to strike the intraligamentous nodule, which, when its fibres are exposed, is fixed by means of the fibroid corkscrew and pulled out of its capsule. In effecting this no large vessels are severed, the dissection is carried on between the folds of the broad ligament, and therefore there is no risk of wounding the ureter or those large vessels which lie just beneath the peritoneum. The instant the intraligamentous nodule is removed the broad ligament collapses, and those subperitoneal structures, such as the ureter, which have been displaced, recede towards their normal sites and the anatomy of the pelvis then becomes symmetrical. It is important that the lateral incision should pass outwards from the opened cavity of the uterus, so as not to divide the outer part of the capsule. After mobility and symmetry have been secured the uterus can be removed, as under ordinary circumstances, by serial ligation of the ovarian and uterine arteries. In this type of case no portion of the cervix should be left to act as a bar against drainage through the vagina.

J. F. J.

SENN (*Med. Rec.*, July 13, 1901), discussing the present state of the carcinoma question, insists that direct medication of the diseased tissue by parenchymatous injections has no influence in arresting or retarding the new growth, though the injection of sclerogenetic substances into the connective tissue surrounding the tumour, by impairing the blood supply to its parenchyma, appears to restrain its extension. Local applications to ulcerating carcinoma are at best merely palliative. Early and radical operation offers the only prospect of eliminating the disease. The alleged increase of carcinoma is more apparent than real, but heredity plays an important part in its ætiology. Neither experimental research nor bacteriological or histological investi-

gations, nor the results of implantation and inoculation have established the supposed parasitic origin of carcinoma.

LIGHTOLLER (*Aust. Med. Gaz.*, May 20, 1901), in an article on "Panhysterectomy by means of Doyen's Forceps," quotes, in reference to the influence of age and marriage, the following figures from Schroeder:—

Of 1,237 women attacked with cancer, 753 were from 40 to 60 years old. Of 1,000 women attacked with cancer, 771 were married. Of 948 women attacked with cancer, in 78 only was it hereditary.

In the Frauen Klinik, Munich, of 678 cases of cancer of the uterus, the mean age was 45 years, the youngest being 24, the oldest 73.

Amongst some of the earliest reported cases we have:—

Eckhardt reports the case of carcinoma of cervix in the case of a virgin aged 19. Biget reports the case of carcinoma of cervix in the case of a virgin aged 19. Glatte reports the case of carcinoma of cervix in the case of a virgin aged 17. Schauta reports the case of carcinoma of cervix in the case of a virgin aged 16. Rosenbim reports the case of carcinoma of cervix in the case of a girl aged 2. The ten most susceptible years are from 40 to 50.

CANCER OF THE UTERINE NECK.

BALDY (*Phil. Med. Jour.*, June 15, 1901) describes this disease as surgery's disgrace. The best statistics show but 5 per cent. recovery. The best recorded statistics are those of Johns Hopkins Hospital, with 20 per cent. recovery, but this does not include a large number of inoperable cases, and again, some of the cases reported as cured are but nine to fourteen months old, too early to warrant an absolute cure. The microscope is not a sure means of diagnosis, and therefore some cases are operated upon that are not cancerous. Winter's statistics from Germany show that the disease is almost incurable. The early discovery of the disease is most important. The question of the laboratory is becoming a fad. Clinical observations of facts precede the laboratory, and are more important. Hæmorrhage is the most important early symptom. Carstens, of Detroit, and Zinke, of Cincinnati, believe that early operation is a sure cure. Clark, of Philadelphia, would not trust solely to clinical evidence. RIES, of Chicago, objected to the reader's paper. He thinks that the operation of total extirpation of the glands, broad ligament, round ligament, and all other tissues will cure the patient. Recurrence occurs in a large majority of cases within six months. Wertheim's primary mortality is large, but of the cases that have recovered no recurrence has taken place. The mortality of this extensive operation is 10 per cent. KOLLISCHER, of

Chicago, claimed that Baldy's statistics are absolutely correct. Cancer of the portio, however, is relatively harmless, since 21 per cent. can be cured. Baldy, in closing, stated that recurrence when it does take place does so in the wound and below, not above, hence the extirpation of the glands is uncalled for. No man can remove every gland from the pelvis of a living woman.

CANCER OF THE UTERUS.

RIES (*Amer. Journ. Obst.*, July, 1901), in operating for cancer of the uterus extends the extirpation of tissues not only to the ligaments of the uterus, but even to the regionary lymphatics. He here advances evidence on the involvement of the lymphatic glands in the spread of cancer, and on the more hopeful prognosis given by their removal in early cases. His statements are based partly on his own work and partly on that of Wertheim, Broese, Von Franqué, Wuelfing, Cullen, König, and Funke. It is not easy to find cancer in the glands, and many series of sections must be examined. In one case Ries examined 700 before he found one with cancer. Enlarged glands may not contain any cancer, and others apparently normal in size may be full of cancer nests. Glands have been found carcinomatous in several cases which would be considered as very hopeful ones. The infected lymphatic glands may break down and become purulent in their centre so as to form an abscess surrounded by a shell of carcinomatous gland tissue. This abscess may burst into the peritoneal cavity and give rise to fatal peritonitis after the patient has recovered from the hysterectomy.

The size of the cancer in the cervix is in no regular proportion to the size of the affected glands. In one cancer of the vaginal portion not larger than a thumb nail he found an infected gland larger than a pigeon's egg. Neither the number nor the size of the involved glands can be predicted from the size of the cancer in the cervix. The cancerous glands are sometimes firmly adherent to the large blood-vessels, the walls of which may be invaded by the disease. So-called "infiltration" of the broad ligaments may simply be a large cancerous gland in the broad ligament. The glands can seldom be felt without opening the abdomen, and even then it is necessary to split the peritoneum and to dissect the large blood-vessels freely in order to find and remove them completely.

J. F. J.

DECIDUOMA MALIGNUM AND THE HYDATID MOLE.

MÉTOZ (*Th. de Paris*, No. 69, 1900-1) finds that of ninety-eight recorded cases of deciduoma malignum forty-eight supervened upon hydatid moles. He therefore concludes that every

uterus that has contained an hydatid mole must be most carefully looked after, and recommends the treatment adopted by Bonnaire, his master. The mole should be removed by a blunt curette in the most gentle manner possible, the uterus should then be well washed out, not with solution of the perchloride of mercury, but with one of iodine. A strip of iodoform gauze is then passed into the uterus to prevent secondary hæmorrhage or infection from sloughing of any *débris* of the mole. This dressing is renewed every day, and it is not till the tenth day after the removal of the mole that Bonnaire proceeds to really curette the uterus with an instrument devised by himself, which is neither exactly sharp nor blunt, but of which the blade is indented with saw teeth like the face of a file. Having destroyed all vegetation that may exist in the uterus, he washes out the cavity with the solution of iodine, or one of permanganate, cauterises it with a mop soaked with glycerine of creosote or $\frac{1}{2}$ solution of zinc chloride, and plugs the cavity with iodoform gauze. Five or six dressings are made in this way at intervals of two days, and he keeps the woman under careful supervision, to intervene promptly if it should be necessary.

AN ALTERNATIVE FOR THE KRASKE OPERATION IN WOMEN.

EDEBOHLS (*Amer. Journ. Obst.*, August, 1901) points out that while operations for neoplasms of the lower half of the rectum can be done by the vagina, by perineotomy, or by incisions beside, behind, or circumscribing the anus, the abdominal route is clearly indicated for new growths of the sigmoid flexure. Neoplasms of the upper part of the rectum have been removed by the vaginal route; there is, however, great difficulty in attacking affected tissues and glands located high up in the pelvic cavity behind the diseased bowel by this way, and the removal of such tissues and glands can be accomplished better by resection of the upper end of the rectum through an incision through the left rectus abdominis muscle, sacrificing the uterus, if necessary, to gain free access to the affected bowel and the tissues and glands behind it. Any aid that may be derived from performing part of the work by the vagina may be utilised in this new operation. He reports a case in which, in order to get at the cancer of the upper end of the rectum, the uterus containing a four months' fœtus had to be removed. The sigmoid flexure was then tied at a little distance above the tumour with a strip of iodoform gauze, the knot being arranged so as to be easily undone through the anus after the completion of the operation. Eighteen centimetres of bowel were resected, the sacral glands and all fatty and connective tissue posterior to the resected bowel, clean down to the periosteum covering the sacrum, were cleared away, and an end-to-end anastomosis of the

sigmoid with the rectum effected, the sigmoid being invaginated into the rectum and the invagination maintained by two rows of interrupted sutures of catgut. The sutures maintained in apposition two centimetres of the outer surface of the upper end of the cut rectum, and the same extent of the outer surface of the cut sigmoid, leaving about two centimetres of the tied end of the sigmoid to project free into the lumen of the rectum. A small strip of gauze was adjusted about the bowel at the line of suture, and the end led into the open upper end of the vagina, the abdominal incision was closed, and the gauze tied round the lower end of the sigmoid was removed through the anus. An excellent recovery followed.

The advantages of this operation over the Kraske are: (1) It is easier to remove thoroughly all the diseased parts, especially the glands in front of the sacrum; (2) the presence of secondary deposits in the liver can be determined before proceeding to excise the rectum; (3) there is no large wound below which requires constant and careful attention to keep clean; (4) a preliminary colostomy is unnecessary.

J. F. J.

TRANSPLANTATION OF THE OVARIES IN RELATION TO THE PROCESSES OF OVULATION, PREGNANCY, AND ORGANIC METABOLISM.

ROXAS (*Archivio di Ost. e Gin.*, June, 1901) has found that ovaries may become attached after transplantation from their normal seat to another in the same animal. To avoid necrosis, the transplanted ovary should always have a small pedicle to receive the sutures for its fixation, none of which should pass through the ovarian tissue proper. After transplantation of the ovary in the same animal complete ovulation may occur, and conception and pregnancy are therefore possible. Transplantation of the ovary from one animal to another of the same sex is possible, and the transplanted organ can be nourished and functionate even so far as to produce sound and mature ova. Castrated sheep, upon which transplantation of ovaries has been practised, are probably unaffected by the modifications of organic metabolism which occur after ovariectomy, the transplanted ovaries continue to produce mature follicles and ova, and it is reasonable to suppose that the internal secretion, recognised as necessary for normal metabolism, is still available also.

Roxas is continuing his experiments, but considers that he has already proved the possibility of relieving the symptoms which occur after removal of the ovaries. These symptoms depend upon the lack of some substance which favours the oxidation of organic matter containing phosphorus, of the fats

and hydrocarbons, and which governs the normal process of organic metabolism. He suggests that, for therapeutic purposes, the ovary should be planted in the lax extraperitoneal tissue, or introduced into the pelvic intraperitoneal cavity through the vagina.

F. E.

TRANSPLANTATION OF THE OVARIES.

LOOKASCHEVITSCH (*Vratch*, 1901, No. 29), after discussing the cognate literature and describing his own experiments, comes to the following conclusions:—

(1) The ovaries of one female animal may be transplanted to another speyed at the same, and this may be done from carnivora to herbivora and *vice versa*.

(2) The transplanted ovaries become attached, receive nourishment and functionate.

(3) The following conditions are essential for successful transplantation: (a) aseptic procedure; (b) careful suture of the ovary to the mesovarium; in doing this it is possible to cover even the lower half of the ovary with peritoneum, in other words, care must be taken to secure the best possible nourishment for the ovary and to imitate nature in its attachments; (c) both ovaries, or as much of their tissue as possible, should be transplanted; (d) the ovaries should be sutured as nearly as possible to their normal places in the broad ligaments, and (e) the sutures should not be carried through the ovarian tissue proper, and pressure of neighbouring organs upon the ovary should be prevented.

(4) Transplantation of the ovaries is not generally durable, and after a certain time there appears to be an inclination to retrograde changes, to a sort of senile atrophy, to loss and destruction of the ova and follicles, to growth of the parenchyma, with narrowing of the lumen and thickening of the walls of the vessels, and sometimes, later on, to the deposition of lime salts in places.

(5) This instability of the transplanted ovaries seems to be due to deficient nutrition, to the paucity and small calibre of the newly-formed vessels; the atrophic changes point to the same influence in ovaries within three months of being transplanted.

(6) Nevertheless in some cases transplanted ovaries well fixed to the broad ligaments have, for a certain time (in the author's case for three years), notably, if somewhat feebly, retarded the atrophy of the genitals and the inclination of the body to obesity, by their favourable influence on the general system.

(7) In cohabitation with a male of the same species, conception did not occur after transplantation.

F. E.

OVARIAN CYSTS.

HILL (*Amer. Journ. Obstet.*, August, 1901) looks upon tumours as growths produced by an activity of embryonic tissue beyond the physiological limitation or requirements of the organisms. If in the active tumour-forming embryonal tissue the elements from the epi- and hypoblastic cells predominate a tumour of the cellular type will be developed, whereas if the elements from the mesoblastic cells predominate a connective tissue growth will be produced. Cohnheim's theory that all true tumours are due to faulty embryonal development is supported by the fact that the parts of the organism which are formed by the most complicated tissue changes in the embryo, are most frequently the seat of tumours during perfect health. The embryonic cells lie latent, but "any condition which directly or indirectly contributes to the departure from normal of the general organism or of the local tissue, may be considered a negative cause of the embryonic cells undergoing active tissue proliferation."

If Cohnheim's theory is correct then the complicated manner in which the ovary is formed is one of the important factors in the causation of ovarian tumours. The more complex the development the more liability is there to imperfections in the process. Displaced embryonic cells, entangled in the fibres of the connective tissue forming the stroma, may be the anatomic origin of an ovarian tumour. In no other way can the stroma of the ovary be the primary seat of a true cystoma. In the formation of a corpus luteum the cells become embryonic for the purpose of producing the necessary tissue changes. Some of these may fail to reach maturity and remain susceptible of being stimulated to tumour formation. Inflammation is a factor in the causation of these cysts, probably by exciting a preformed matrix of embryonic cells to active tissue proliferation. Other conditions may act in the same way—any variation in the cell vitality of the ovary manifested as a functional disturbance—and this explains why nulliparous women are more liable to have these cysts than multiparous.

J. F. J.

SUPPURATING OVARITIS.

MAUGER (*Th. de Paris*, 1900-1901, No. 1) has collected twenty cases which show that suppuration of the ovary may exist as an isolated affection, and that when it does so, or constitutes the main lesion, it gives rise to special features by which it may be recognised; his conclusions are: (1) Suppurating ovaritis often exists as a solitary lesion, it is then nearly always unilateral. When the tube is involved parietal lesions are also present. The broad ligament is thickened, œdematous and infiltrated, it encircles the ovarian tumour in front, and sometimes contains

within its small lymphangitic abscesses. Suppurating ovaritis may remain latent for years; its course is frequently characterised by subacute crises scattered over a very long period, and in the intervals the health may be perfect. It may reveal itself by a sudden acute attack without any warning whatever; generally it has been preceded by old metritis forgotten by the patient. Metrorrhagia is a very frequent accompaniment, as also crural and sciatic neuralgia, and pains in the hip and knee joints; any of these symptoms may predominate so as to constitute the ovarian suppuration, as hæmorrhagic, neuralgic or pseudo-rheumatic. Cachexia may supervene if the pus be septic from the beginning, or become so afterwards. Bimanual palpation reveals a hard, resisting tumour high up in the abdomen, fluctuating if large, commonly without tenderness, and distinct from the uterus. The infection in these cases is by way of the peritoneum and lymphatics from the uterus (often after childbirth), as is shown by the infiltration of the broad ligament, and frequent immunity of the tube. The proper treatment is laparotomy and extirpation of the sac after puncture. The vaginal way is seldom indicated, the tumours being so high in the abdomen.

SACTOSALPINX HÆMORRHAGICA.

WALDO (*Amer. Journ. Obstet.*, August, 1901) includes under this name all accumulations of blood in a Fallopian tube not due to an ectopic pregnancy therein. He reports two such accumulations; in neither case was there anything to point to pregnancy; in neither could decidua vera or chorionic villi be found; in both the contained fluid was of a dark reddish-brown without any clots, in marked contrast to that met with in cases of ectopic gestation. He supposes that the pathological changes had probably been as follows: Primarily some inflammatory disease had closed the fimbriated end and yet had not produced pus. Next, the tube became twisted about its long axis and the lumen obstructed near the uterine end, and the menstrual blood and the secretions from the mucosa so prevented from escaping from the affected tube into the uterus. The fimbriated extremity being closed, escape into the peritoneal cavity was impossible. The tube thus became gradually dilated, the outer part especially so, and the nutrition of the tubal epithelium so impaired as to be partially destroyed or flattened. As the obstruction of the blood-vessels in the twisted portion got more and more complete, the venous engorgement became greater, and some inflammatory process supervened and caused adhesions. In both cases the tube was removed; one recovered, the other died of pneumonia on the seventh day.

J. F. J.

SALPINGITIS.

FAURE (*La Gynécologie*, February 15, 1901, Paris) refers to a case in which M. Tillaux had removed, a year before, both appendages for an inflammatory affection. The patient had recovered perfectly from the operation, which therapeutically was a failure. She had uterine pain with a continual discharge, and suffered about as much from her metritis as she had formerly from inflammation of the appendages. He performed hysterectomy and, judging from this case and many previous ones, expressed the opinion that when both appendages are sacrificed the preservation of the uterus is the source of more trouble than advantage.

P. Z. H.

RUPTURE OF THE AMNION AND PENETRATION OF THE UMBILICAL VESICLE INTO THE AMNIOTIC CAVITY OF AN EARLY HUMAN OVUM; HYDRAMNIOS DURING THE EARLY MONTHS OF PREGNANCY. By PUCCIO (*Archivio di Ostet. e Ginec.*, April, 1901).

Rupture of the amnion may occur early or late in pregnancy. When early, such rupture leads to the emigration of the embryo from the amniotic cavity into the external cœlom, or, as in the case reported, to the penetration of the umbilical vesicle into the amniotic sac.

The patient, who was 42 years of age, had had seventeen pregnancies, of which ten went to term, six were interrupted spontaneously during the early months of pregnancy, and one interrupted criminally by the patient herself. After three miscarriages and the criminal abortion she became pregnant in April, 1899, but aborted at the fourth month. After the abortion menstruation became quite regular and generally appeared on the 10th or 12th of the month. On January 6, 1900, several days before the menstrual epoch, the patient, without feeling any symptoms which attracted her notice, suddenly lost so much blood that she had to go to the hospital. Drs. Puccio and Arpini found an ovum in the vagina and carefully removed it. The patient was put to bed, endovenous infusion of chloride of sodium was performed, the uterus was scraped for fragments of the decidua and drained with iodoform gauze. The genitalia, internal and external, were found to be normal, except for a slight prolapse. The ovum was probably just over three weeks old, from December 15, 1899, the last day of the menstruation beginning on December 10, when conception took place, to January 6, 1900. It was hardened and preserved in alcohol, and showed the amniotic rupture at one side of the embryo and the umbilical vesicle projecting into the amniotic sac. The

surface of the laceration was covered with a cellular stratum, as if it had occurred before the expulsion of the ovum, and therefore the ovum might be less than three weeks old.

The abortion in this case was evidently of maternal origin and the rupture of the amnios secondary to disturbances in the nutrition of the ovum.

The spontaneous rupture of the amnion may be due to the physiological contraction of its walls, which can be seen in the hen's egg (Hertwig), from one pole to the other; just so as rupture of the uterus may take place from its own contraction instead of rupture of the bag of waters. This is important in criminal cases, as the rupture might possibly be taken for the entrance of a sound.

F. E.

OSSIFICATIONS OF THE DURA-MATER IN RELATION TO PREGNANCY.

LANCÉLIN (*Th. de Paris*, No. 89, 1900-1), on the basis of five recorded and one personal observation, concludes: Ossification of the dura-mater may arise from interstitial ossification or from hæmorrhagic or internal or external pachymeningitis. Interstitial ossification may affect the innermost layer of the internal sheet of the dura-mater; it takes place by a sort of cleavage analogous to that in the ossification of the cranial vault in the foetus; secondarily the weaker sheet, enveloping the bone, that is, the sheet next the arachnoid, may disappear in more or less of its extent. This ossification of the dura-mater seems to be closely connected with the production of cranial osteophytes arising in one pregnancy, and it seems to increase progressively in succeeding ones, and it does not appear that there is any diminution in the bony tissue in the intervals between them.

HÆMATURIA DURING PREGNANCY.

CHIAVENTONE (*Bollet, d. Ass. San. Milanese*, March, 1901) relates a new case of hæmaturia gravidarum, a very rare affection if the term be used in regard to cases of hæmorrhage from the urinary tract during pregnancy, the cause for which is to be traced to the gravid condition of the woman alone, and not to tuberculosis, renal lithiasis, hæmophilia, or some other independent reason. The number of such cases already recorded is only seven. In this new one the patient was a woman, aged 46, who had been pregnant five times previously, once with twins, without anything unusual occurring; her history disclosed a parenchymatous metritis treated ten years back by curettage and afterwards by amputation of the collum.

The hæmaturia, confirmed by microscopical and spectroscopical examination, came on about the middle of her sixth preg-

nancy, without any objective or subjective trouble. The cystoscope was not available, but minute examination of the urinary organs could otherwise detect nothing abnormal. Beside the elements of blood, the urine contained, from time to time, long vermiform coagula, the expulsion of which was sometimes attended with acute pain along the ureters and at the level of the kidneys; there was no albumen nor casts, nor any kind of parasite, microbic or otherwise.

The hæmaturia was never very abundant and did not affect the patient's health; it was almost continuous during the second half of the pregnancy in spite of the usual hæmostatics and a strict regimen. It ceased spontaneously eight days after delivery.

As regards pathogenesis, the author thinks that venous stasis in the kidneys and retention of urine due to compression of the large abdominal vessels and of the ureters by the gravid womb may have some effect, but one subordinate to that of gastrohepatic insufficiency so commonly affecting pregnant women.

In regard to treatment, assuming the futility of drugs, if the hæmorrhage was endangering the mother's life, one might, after having tried puncturing the membranes with the view of lessening the size of the uterus, and the intraabdominal pressure thereby determined, find oneself obliged to put an end to the pregnancy.

F. E.

PREGNANCY COMPLICATED BY TUMOURS.

NICHOLSON (*Univ. Med. Mag.*, December, 1900) gives the following valuable digest of recent literature on dystocia due to fibroid tumours. Dystocia in general is one of the most interesting subjects in obstetrics, and the particular variety of difficulty caused by the pressure of tumours at some part of the birth canal forms, because of the uncertainty of diagnosis and treatment, a very instructive study.

HENRY C. COE (*New York Medical Journal*, November 25, 1899), under the title of "Pregnancy Complicated by Uterine Fibroids," states that pregnancy does not always cause marked development of the tumour, but that the growth is dependent upon the closeness of its relation to the uterus and also upon its position. In substantiation of this statement he reports the case of a primipara in whom there were two subperitoneal tumours as large as an orange at the fundus uteri, and another of the same size just above the junction of the lower and middle third in the anterior wall. These tumours seemed not only to have no influence on pregnancy, but on the other hand were not at all influenced by it. This, in his experience, is not at all

unusual, he having seen cases of interstitial and even impacted subserous forms, in which no bad influence upon the pregnancy was noticeable. He also believes that small intrauterine growths are less likely to disturb pregnancy than to cause trouble after delivery by degenerations.

Another interesting case is reported by the same author. The patient in this case sought treatment because of a hydronephrosis, the cause of which was found by exploratory incision to be a fibroid tumour pressing upon the ureter. Although it was not removed, the manipulations seemed to relieve the pressure and the condition was apparently cured. One year later the woman again presented herself to him and was found to be in the eighth month of pregnancy. The tumour, extraperitoneal in development, situated in the lower segment of the uterus and pushing the bladder forward, was, when seen at the previous examination, only as large as an English walnut, but pregnancy had so stimulated its growth that its size was quadrupled and caused a contraction of the conjugate to two inches and a half. Cæsarean section was performed two weeks before term, and both mother and child recovered. The former died four years later from pyonephrosis. Author calls attention to the exemplification by this case of the importance which should be attached to the position of a myomatous growth irrespective of its size. In discussing the difficulties sometimes met with in the diagnosis of pregnancy in the presence of a fibroid, he relates a very instructive case. In brief, the condition presented by the woman was an abdominal tumour known to have been present for a year, but without symptoms until the past three months. There were no signs nor symptoms of pregnancy, which was strenuously denied by the patient, except absence of menstruation and pressure symptoms due to the rapid increase in size during the past three months. A supravaginal amputation showed that the uterus contained not only a large fibroid in the wall, but also a three months' foetus in the cavity.

The complications to be feared in labour are briefly discussed, and the belief is stated that the tendency to hæmorrhage has been feared more than the infrequency of its occurrence would warrant. The greatly increased tendency to premature expulsion of the uterine contents strongly insisted on by many writers, is also denied. The marriage of women the subjects of fibroid tumours giving the symptoms of pain, bleeding and pressure, is deplored, but he acknowledges the great odds against which the physician has to fight in preventing such unions. In concluding his article he advises conservatism in the treatment of fibroid tumours in pregnancy, and strongly advises against the induction of premature labour or abortion, since the Cæsarean operation at term is no more dangerous than a supravaginal amputation at the fourth month.

MARCUS ROSSENWASER (in a recent paper read before the Cleveland Medical Society) discusses the management of fibroids complicating pregnancy, and states that the German statistics show a loss of half the women and two-thirds of the children in the cases allowed to go to term. He thinks that only a few of the cases of even small fundal tumours allowed to go to term experience normal labour as a result. He believes that all rapidly growing or obstructing tumours demand removal.

A. G. HELM MONTAGUE and C. B. MOSS-BLUNDELL (*Lancet*, August 19, 1899), report a case of multiple fibroids of the body of the uterus, with a subperitoneal mass attached to the fundus as large as an orange. The delivery of this case, which was not seen till labour, was procured by the use of the forceps, which were demanded by inertia. It is interesting because of the occurrence of a severe post-partum bleeding, which was very difficult to control.

WILLIS E. FORD (*Medical News*, March 31, 1901) believes that pregnancy, while one of the more unusual complications of fibroid tumours, is yet more common than has been supposed. He thinks that pregnancy is less frequent in the subserous than in the intramural forms, and refers to the well-known fact that large submucous forms and those which by their position distort the cervix are likely to prevent pregnancy.

The danger of rupture of the uterus is spoken of as a danger at times presenting in pregnancy. (The occurrence of this accident is certainly rare according to the experience of most of the writers on the subject.) The first stage of labour is very likely to be abnormal on account of the lack of elasticity of the cervix. Sepsis and displacements of the uterus are spoken of as dangers to be feared in the puerperium.

In the decision as to the treatment of different cases it is necessary to judge each separately on its own merits, it being impossible to lay down any hard and fast rules for their government in general. Several interesting cases are reported as illustrations of the uncertainty which surrounds the question of operative interference in the great majority at least of these cases. The first case is interesting as showing the method of cure at times used by nature in the treatment of the ordinary non-pregnant fibroid tumour. The patient had passed through a rather difficult, though spontaneous, labour some six months before, and at that time the difficulty was diagnosed as an intramural fibroid as large as a cocoanut, situated in the body of the uterus, the cervix being free. When seen six months after labour the woman was complaining of pain and bleeding, and in a short time passed a cocoanut-sized fibroid. On examination it was determined that there were three other small, subserous tumours, not larger than a walnut, just above the internal os.

In this case it was decided that hysterectomy would, in all probability, be needed; but as the cervix and lower segment were free, it was wisely decided to wait for labour. The case illustrates well the constant apprehension which must be felt in many of these cases after birth, for not only was sepsis feared immediately on account of possible bruising of the tumour, but there was also constant fear that something was seriously wrong with the case for a period of six months, until, with the expulsion of the tumour, the symptoms subsided.

Another case illustrates the fallacy of the palliative treatment in septic conditions due to these tumours. When seen first the patient gave a history of sickness of eight weeks' duration following a miscarriage. The placenta had been manually removed. On examination a mass was found on the posterior wall as large as a cocoanut, and involving the cervix. As the mass was sloughing a hysterectomy was advised but declined, and palliative curetting was done in the hope that eventually consent would be obtained for the complete removal of the uterus. The condition was a well-localised one, in fact a local putrefaction, and so there seemed a slight possibility that good might result from this procedure. Death, however, followed in a few days. The septic infection in this case was unavoidable, as was shown by the position of the tumour, which was situated in the dilating portion of the uterus, and thus could not escape the rupture of its capsule, after which infection was almost certain.

Another case reported by the same author may be considered as unique, and well worth reporting as showing a method which nature may have recourse to in exceptional cases. The patient presented herself for treatment because of a fibroid at the base of the bladder and supposed polypi in the vagina. She gave the history of an easy labour nineteen years previously. On examination there was found a small fibroid in the anterior wall of the uterus, and on examining, the supposed polypi were found to be the cervix, which had been torn loose from the uterus posteriorly, but still retained its connection anteriorly. On careful examination, it was determined that the cervix had never been dilated, and the author's explanation of the case is that in the labour nineteen years before the lower segment had torn itself loose from the cervix on account of the inelastic tissue which it contained, and that the child had been born into the vagina directly from the uterus proper, without having passed through the cervix.

In conclusion the author states that while no fixed rule of treatment is applicable to all cases, it may be accepted as a safe working hypothesis that when the lower segment of the uterus and the cervix are free from fibroid growth labour may be awaited with confidence even if the tumour be of considerable

size. If, however, a tumour of any considerable size be found involving the area of the internal os, particularly if it block the canal to any extent, the possibility of a major operation must be kept in mind. He is in accord with the vast majority of men in advising against palliative treatment of the infections arising after birth.

A. BENCKISER (*Münchener medicin. Wochenschrift*, July 11, 1899) records six cases of dystocia due to various forms of tumour. Two of these tumours were ovarian, two were myomata of the lower uterine segment, one was a hæmatoma of the mesentery, and one was the unimpregnated half of a uterus didelphys. He refers to the reported cases of congenitally misplaced kidneys as causes of obstructed labour, but limits his discussion to ovarian and fibroid tumours.

All tumours can be classed as reducible or irreducible for practical purposes without regard to their actual origin or pathologic nature. The tumours of ovarian origin are more likely to be reducible than are the myomatous forms of uterine growth, the reason, of course, being that the former are pedunculated as a rule. The first of the two cases reported, in which a myoma was the cause of the obstruction, is interesting from the fact that the first attendant mistook the tumour for the head of a foetus, and believed that he was dealing with a twin labour. The tumour, indeed, resembled the head of a child very closely in shape, size, and consistence. It arose from the cervix and was impacted in the small pelvis. When the case was first seen the mother's condition was very bad, and so, as reposition was impossible and the child was dead, it was decided to perforate the head. The mother recovered, though she suffered from infection. Author, in discussing the case, said that it would have been better to have enucleated the tumour by vagina instead of rendering the woman liable to a fatal sepsis by dragging the head past the obstruction.

In his second case the tumour was situated in the lower uterine segment. It was immovable and blocked the whole right half of the pelvic inlet. The child was alive, however, and, as reposition failed under anæsthesia, the Cæsarean operation was felt to be the only permissible method of treatment. Feeling, however, that there was a slight chance that the uterine contractions, which were strong, might elevate the tumour, it was decided to wait for a time, and a colpeurynter was inserted in order to preserve the membranes. As, however, after waiting as long as was felt to be wise no elevation of the mass took place, a Cæsarean section was performed, the incision into the uterus being that recommended by Fritsch, transversely at the fundus from one tubal end to the other. The tumour was found to be as large as the adult head, and to arise from the whole

right side of the lower uterine segment. It also extended into the right broad ligament. Enucleation was attempted with the hope of saving the uterus, but the trauma resulting after removal of the tumour was so great that a supravaginal amputation was performed. Recovery was good. (While in this case the expectant treatment, temporarily followed, was not a success, it was, however, the right method to pursue, and should be always tried, at least in cases in which the cervix is not involved. This point has been strongly emphasised by Olshausen in his exhaustive article.) Author calls attention to the futility of attempting manual reposition of these growths without ether. He says that in labour attempts should be made to elevate the tumour as soon as its presence is diagnosed, and the various positions, the dorso-sacral, knee-chest, and the latero-prone, should all be tried before accepting failure. The use of an anæsthetic is important, since without it the attempts will only increase the force of the contractions of the uterine and abdominal muscles, and thus greater force will be demanded in the manipulations; a harmful factor in itself. The attempt should, of course, be made in the absence of uterine contractions.

The colpeurynter is a valuable agent in the preservation of the membranes, which is especially important in this type of case, as foetal death frequently occurs during labour because of prolapse of the cord. It is also of value in keeping the tumour, after it has once been reduced, out of the small pelvis during the engagement of the head.

If the tumour cannot be replaced it becomes important to know if it be solid or cystic in nature, and if this point cannot be otherwise determined with certainty, it is permissible to use the exploring needle. It is to be remembered, however, that this is a diagnostic and not a therapeutic measure. Vaginal section, allowing as it does for drainage afterwards, is preferable if it be desired to evacuate the contents of a cyst in this region.

Loehlein, quoted by the author, advised in the treatment of these cases that an abdominal section be performed and the tumour elevated and removed, the birth being then allowed to take place spontaneously. This plan has the advantage that all danger of sepsis in the puerperium, due to degeneration of the tumour, will be avoided. Of course, if the tumour be found impossible of removal or elevation after the abdomen has been opened, a Cæsarean section will be demanded. Hohl, on the contrary, and in this he is supported by Fehling, vehemently objects to this method of procedure, since cases of fatal bleeding have been reported due to the slipping of a ligature after removal of a tumour during birth. Such an objection is not, in the opinion of the author, valid, since care in the application of the ligatures and the avoidance of the mass ligature will avoid this accident.

In the case of irreducible solid tumours of the small pelvis, a vaginal section should be performed if they can be removed in this way, but if not a Cæsarean section must be done, and in this event the uterus should be preserved if possible.

BLAND-SUTTON, in his post-graduate lectures delivered at the Polyclinic (*Lancet*, February 9, 1901, *et seq.*), mentioned that though ovariectomy during pregnancy was successfully performed in 1847 by Burd, in 1850 by Atlee and by Marion Sims, it did not find favour with the profession till Spencer Wells, in 1877, reported nine cases with one death; now it is the recognised method of treatment in the early stages of pregnancy. Performed before the fourth month, the chances of abortion are very small and the mortality less than in non-gravid women; even in double ovariectomy, before the fourth month the risk is slight and pregnancy is seldom interrupted. There is more danger in the removal of a parovarian cyst. After the fourth month the risk is that of an ordinary ovariectomy, but the chance of abortion increases with each month.

Pregnancy exerts a baneful influence on ovarian tumours; and ovarian tumours are, as a rule, inimical to pregnancy. One or both ovaries may be transformed into dermoids, and yet be capable of yielding fertilisable ova, and it is a remarkable fact that of the ovarian tumours complicating pregnancy very many are dermoids, and many of these are bilateral.

When an ovarian tumour occupies the pelvis and offers a mechanical impediment to delivery, the foetus almost invariably dies, the cyst, the uterus, or the vagina may rupture, or the tumour may be extruded into the rectum; with the exception of rupture of the uterus, cases are quoted of the mother's recovery from such accidents. Of the methods of dealing with labour when obstructed by a pelvic tumour, craniotomy, forceps, and version may be thoroughly condemned. The choice lies between "reposition," pushing up the tumour, allowing labour to be completed, and when convenient performing ovariectomy, and immediate ovariectomy and delivery by forceps, or by Cæsarean section if the tumour cannot be extracted.

Two great dangers attend reposition—rupture of the cyst and acute twisting of the pedicle—either of which justify an immediate ovariectomy in a non-pregnant woman. Bland-Sutton asserts that "when an ovarian tumour complicates pregnancy the life of the woman is imperilled throughout the whole of the term; the peril increases with each succeeding month of gestation and culminates in a climax with labour (or abortion)" and concludes that when an ovarian tumour is discovered during labour and impedes delivery, ovariectomy should be performed. He gives four instances of such successful ovariectomy during labour at term, two completed by Cæsarean section.

When the presence of an ovarian tumour is not detected till after the birth of the child, the two great dangers are rupture of the cyst and axial rotation.

Rupture of the cyst, even of a dermoid, is not necessarily fatal, but a cyst ruptured during delivery may put the patient's life in jeopardy, or in many instances destroy it; otherwise it may slowly refill and have to be removed afterwards.

Axial rotation more commonly affects ovarian tumours associated with a pregnant uterus, than any other viscus; it may occur early in pregnancy, or be delayed till after delivery when it is favoured by the rapid diminution of the uterus and the movement which this organ, as it sinks into the pelvis, imparts to the tumour. The axial rotation of an ovarian cyst may obscure diagnosis, as it always tends to bring the tumour into the middle line. Such rotation not only menaces the life of the patient, but the longer it is allowed to persist the more it increases the difficulty and therefore the risk of ovariectomy, owing to the adhesions formed between the tumour and the adjacent viscera, especially the intestines.

PLAYFAIR (*Lancet*, February 22, 1901) characterises the assertion that puncture of an ovarian tumour impacted in front of the foetal head during labour is always bad practice as a sweeping conclusion which facts do not justify. When the services of a skilled gynæcological surgeon are available, coeliotomy should no doubt be adopted; otherwise a preliminary puncture is the simplest and probably the safest procedure.

McKERRON (*Lancet*, March 9, 1901), whose important paper on "The Obstruction of Labour by Ovarian Tumours in the Pelvis" (1897) is referred to by Bland-Sutton, writes: "Where, as most often happens, circumstances do not allow of immediate ovariectomy, reposition is without doubt the best method of dealing with this complication, . . . and it will, I am convinced, continue to obtain the sanction of the most advanced obstetric authorities."

BLAND-SUTTON (*Lancet*, February 16, 1901), in his second lecture dealing with pregnancy associated with fibroids, alludes to the collection of cases published by Champneys in 1877, which show that fibroids often complicate labour and frequently cause death. The woman is in danger not only while the foetus is in the uterus, but also when it is expelled, either prematurely or at term. The tumour may induce abortion, followed by fatal hæmorrhage, or may become impacted; if submucous it may become septic and slough, or may be driven out before the presenting part, or more frequently be extruded five or six weeks

after child-birth. A submucous fibroid may become œdematous, and when the uterus empties itself, may inflame and lead to peritonitis or the formation of extremely vascular adhesions. A subserous fibroid with a long pedicle may become incarcerated in the pelvis and simulate an ovarian tumour, though this is rare.

Pain, generally due to impaction, is an early sign of fibroid associated with pregnancy, but though in very many instances the patient seeks relief because her tumour has rapidly increased and causes pain, she rarely suspects that she is pregnant. Impaction may also cause retention of urine, and probably accounts for the frequency of abortion. A relatively small fibroid may impede the ascension of the uterus as it enlarges in pregnancy, and give rise to great trouble. Several cases of the removal of subserous fibroids from the gravid uterus are given to illustrate the way in which the organ tolerates surgical operations even when pregnant. The operations were in all cases undertaken for the relief of pain, and generally on an erroneous diagnosis, the swelling being taken for a pyosalpinx, an ovarian cyst, or a renal tumour. Pedunculated or sessile fibroids may cause no inconvenience, but a tumour that interferes with the bladder or bowel will cause pain, and one that becomes incarcerated and prevents the uterus rising in the abdomen will not only cause pain, but will provoke abortion. In other cases the duration of pregnancy may be normal, and the child may be born without any hindrance, but the fibroid may endanger the mother's life. Puerperal septic endometritis—a serious matter in any case—is far more so when the infected uterus contains fibroids. Moreover, necrosis and gangrene of the tumour, generally due to injury by the sound, dilators, curette or obstetric forceps, occasionally happens from the efforts of the uterus to expel a pedunculated fibroid. Sepsis does not necessarily affect a parturient woman with a fibroid, nor when it does so is it necessarily fatal; but many women subjected to hysterectomy for fibroids state that they never had pain or suspected the existence of a tumour till they had a miscarriage, and at the operation it is then generally found that the cœlomic ostium of one or both tubes is occluded and the tube distended with sterile serum or pus. Septic endometritis after labour is, as a matter of fact, responsible for far more cases of acute and chronic salpingitis than gonorrhœa. Hysterectomy is justifiable when it is found that a fibroid tumour of the gravid womb offers an insurmountable obstacle to delivery at term by the natural passages.

Bland-Sutton concludes that, associated with pregnancy, ovarian tumours have given more trouble than fibroids, but that the latter have been far more lethal owing to fatal puerperal sepsis.

DONALD (*Lancet*, June 15, 1901) reported three cases of hysterectomy for rapidly growing fibroids. He held that fibroids seldom but sometimes increased the dangers to pregnancy by rapid increase in size, pressure symptoms, incarceration, or degeneration of the tumour, rotation of the uterus, or abortion. The dangers of abortion consisted in obstruction to delivery, retention of the placenta or membranes, &c. In most cases it was better to wait till term—when it might be necessary to perform Cæsarean section or hysterectomy; if interference was imperative, the choice lay between hysterectomy and myomectomy. The induction of abortion should be abandoned. Subserous tumours of fair size and long pedicles should be removed during pregnancy to avoid the risk of torsion.

He recommended myomectomy, when possible, in order to save the child. The conclusions to be gathered from the discussion were that the dangers attending fibroids of the gravid womb were serious and not infrequent, but essentially depended on the situation of the tumours, interstitial and submucous tumours being the most serious, and the more so the nearer they were to the cervix. That many, perhaps most, cases should be left alone in the reasonable hope that all would go on well; that the induction of abortion should be abandoned; though the danger of sepsis had been lessened by modern methods, that of hæmorrhage was increased by the presence of the tumours. That even in the upper segment fibroids might cause such trouble as to indicate interference; that an enucleation might lead to an unintended hysterectomy, and often was unsatisfactory, as fibroids were left behind; that in patients not likely to conceive again hysterectomy was better than enucleation, and that at term a Porro was to be preferred to craniotomy.

SCHALLER (*v. B. M. J.*, E., 1901, i., No. 377) says delivery *per vias naturales* can nearly always take place, and that the growth sometimes disappears or becomes much less after delivery. A myoma interstitialis if situated at the placental site may make it impossible to detach the placenta, and only a Cæsarean section will then save the patient's life.

PREGNANCY COMPLICATED BY CANCER.

BLAND-SUTTON (*Lancet*, February 23, 1901) looks upon *cancer of the neck of the uterus*, which is an exceptional condition among women who have not been mothers, as the most appalling of all the complications of pregnancy. A woman may conceive even when the disease is well advanced, and as in many cases cancer of the neck leads to enlargement of the uterus, diagnosis may be obscure. Just as a mammary cancer increases rapidly during

lactation, so does cancer of the neck after conception, and even when it has not started till after impregnation, may be well advanced a couple of months later. Cancer of the neck, though not a rare complication, does not often obstruct delivery, as it predisposes to abortion, or, if extensive, to the death of the foetus, and when the question of Cæsarean section, the proper procedure when pregnancy goes to term, arises, it should always be ascertained whether the child is alive. Before the mid period of gestation, if the extent of the disease does not preclude hope of success, the uterus should be emptied and removed by the vagina; even in the seventh month removal of the cervix has been afterwards followed by natural labour at term. Radical operations have been more successful by the vagina.

Tumours of the pelvic bones, usually chondromatous, are very uncommon; but when associated with pregnancy offer a formidable obstruction to delivery; the complication is illustrated by two drawings from a preparation in University College Museum, and by a successful hysterectomy performed by Mr. Bland-Sutton himself.

Post-rectal dermoids occur in men as well as in women. Skutsch, in a woman aged 28, five months pregnant, evacuated a cyst, extending as high as the pelvic brim, through a transverse incision in the perinæum; the woman was delivered without difficulty at term.

Bland-Sutton mentions four instances, three in women and one in a man, in which the *kidney* was a pelvic organ; one of the women was pregnant and delivery was not impeded. He also records as unique the successful removal of a displaced spleen during pregnancy, followed by labour and birth of healthy child at term.

MYOMECTOMY DURING PREGNANCY.

EMMET (*American Medicine*, June 29, 1901) reports nine myomectomies during pregnancy with delivery at term. The paper was read to the American Gynæcological Society at Chicago on June 1, 1901, and as the views of our distinguished American colleagues will be of great interest to our readers, we reproduce the paper without abridgment:—

Pregnancy in the myomatous uterus is always an interesting subject, because it is of sufficiently frequent occurrence to come within the range of each of us, and because its indications are various and involve the life or death of the foetus and sometimes of the mother as well.

Gutierrez, quoted by Delagenière, maintains that of 295 myomatous women, 51 become pregnant. If these statistics are accurate, it would represent the proportion of about 17

pregnancies in every hundred cases of myomas. Durkee, quoted by Howard Kelly, makes this proportion only 2·03 per cent. Fortunately, however, no such proportion even as this latter one presents practical difficulties to the gynæcologist or obstetrician, for it is an established fact that many myomatous uteri carry their pregnancies to term and through delivery without difficulty. The myomas in these cases are either pedunculated at the time of conception or become so during the pregnancy, as a rule, but a number of cases are on record of subperitoneal, sessile tumours in or near the fundus which have presented no serious difficulty at term.

All authorities—prominently among these Howard Kelly, of Baltimore; Delagenière and Doléris, of Paris, give the following general rules regarding the indications of the various forms of this condition. Small myomas and those situated at or about the fundus, or even lower in the body of the uterus, frequently do not interfere with normal pregnancy and delivery, if these tumours are pedunculated. Sessile tumours are likely to cause abortions, but if situated at or near the fundus they need not do so. When myomas are situated at the junction of the uterus and its cervix, or in its lower third, myomectomy is justifiable and indicated, because these tumours will probably interfere with the descent of the uterus into the pelvis and present a serious obstacle to delivery.

These data divide myomas of the pregnant uterus into three classes, both in regard to prognosis and in regard to indications. The first division consists of pedunculated myomas which are not likely to interfere with normal pregnancy and delivery, unless they block the pelvis from their size or situation, and do not call for surgical interference, *per se*. The second class, embracing subperitoneal and interstitial tumours of the body, frequently prevents the completion of pregnancy, but, on account of the liability of abortion to follow their removal, surgical interference is not indicated as an *elective* measure. The third class embraces sessile or partially pedunculated or completely pedunculated tumours so situated that they will interfere with the descent of the uterus and with delivery, and thus necessitate either Cesarean section or the death of the fœtus, and possibly that of the mother, from attempted delivery through the natural passages. During pregnancy, subperitoneal and interstitial tumours are likely to increase very rapidly, owing to the greater supply of uterine blood, while the pedunculated do not share, to anything like the same extent, in this increased nutriment.

The form of surgical interference always indicated—where surgical procedure is indicated at all—is, I think, without question, myomectomy. The excuse in these cases for hyster-

ectomy, which has been largely practised, is founded on the erroneous belief that myomectomy, owing to the violence done the organ and the consequent uterine contractions, is nearly always followed by abortion. Reliable statistics, extending over more than twenty years, or from the dawn of aseptic surgery to the present day, give no foundation for this current belief, and my own experience testifies to what extensive use myomectomy, when employed with adequate precautions against undue violence, may be applied without loss of the fœtus.

R. H. Turner, of Paris, in a monograph published in that city in 1900, gives the following statistics of myomectomy during pregnancy. Between the years 1874 and 1890, 33 of these operations were reported, with 61 per cent. of fœtal mortality and 36 per cent. of maternal mortality, but between the years 1890 and 1900 the reported operations are 44, with only 21 per cent. of fœtal mortality, and 9 per cent. of maternal mortality. Of the 79 per cent. of pregnancies in the latter series, or 34 children which survived the operation, 25 went to term, 2 went to 8½ months, 2, 7½ months, 3 are reported as having "continued,"¹ and the result in the 2 cases is uncertain.

From the year 1900 to April, 1901, I can find but 5 cases of successful myomectomy during pregnancy, including the one I am now about to report. Doléris reports a large pedunculated myoma removed, but though he reports recovery without abortion, he does not state time of delivery. Lewis reports removal of a subperitoneal tumour followed by normal delivery. Muir Evans reports removal of pedunculated myoma. The patient was in her eighth month and doing well when reported. My patient was operated upon April 24, 1900, and was delivered at term. Gemmel reports removal of 3 myomas in early pregnancy with delivery at full term.² In the case which I am about to report I removed 9 myomas, all sessile, and 1 of which was deeply interstitial. This case presented the following history :—

Mrs. T., aged 30, twice married, first marriage three years ago, second marriage about two years ago. American born; occupation until two years ago that of a saleswoman. Admitted to the Woman's Hospital in the State of New York, April 16, 1900. She first menstruated at 15; has always been somewhat

¹ Howard Kelly, in his "Operative Gynæcology," states that he has had three myomectomies during pregnancy which continued to term, and gives the details of one case, but one of the other two has evidently not been reported, because I can find reference to but two, either in Turner's statistics or in the subsequent literature.

² Ford, of Utica, reports five cases of uterine fibroids complicating pregnancy. In one case he reports spontaneous delivery of intrauterine fibroid six months after delivery, but in none of these cases does he report myomectomy followed by delivery at full term.

irregular, period usually occurring every five weeks, flow scanty, duration three days, with severe pain on first day. No previous pregnancies. Last menstruation, January 17, 1900. Previous history otherwise, as well as family history, negative. On admission she complained of almost continual backache; bowels constipated; breasts somewhat enlarged with darkened areola; slight nausea in the morning for the past month. Vaginal examination showed a large uterus filling the pelvis and os retroverted. Several myomas can be felt in the body of the organ. No distinct objective symptoms of pregnancy, owing to presence of tumours. A diagnosis of multiple myomas with probable pregnancy was made.

Operation.—On April 24, 1900, with the assistance of Drs. Sweeney, Barfield and Spalter, internes at the Woman's Hospital, I opened the abdomen by a large median incision. The patient was put in Trendelenberg's posture and the intestines covered and pushed up with a large flat sea-sponge. The uterus was grasped with the hand and brought upward out of the pelvis and was found to be studded with myomas varying in size from that of a hen's egg to that of a pea. The majority were situated in the neighbourhood of the fundus and more were pedunculated, though several were subperitoneal for two-thirds of their calibre. Two of the largest and most prominent of these were situated just above the cervix, one in front and the other at the back of the uterus. The position and size of these two myomas decided me to perform myomectomy, even at the risk of abortion, for I was convinced that these tumours, largely increased in size as they would be at term, would make normal delivery impossible. It seemed to me also that it gave the woman a better chance and would not materially increase the immediate risk of interrupting the pregnancy if I removed all the myomas which the uterus contained, for if I succeeded in accomplishing this it would contract evenly. I was not aware how many myomas the organ contained until I had removed the most prominent ones, and then I was able to discover several more imbedded in the body of the uterus and not distinguishable at the first examination. One of these was quite large and could not be felt from the surface of the organ; I discovered it only after the removal of a prominent one lying in its immediate neighbourhood. Two small myomas I removed through the same incision in the peritoneum, breaking down a thin layer of interstitial tissue which separated them. I continued to remove the tumours until I had obtained nine, closing each peritoneal incision with continuous catgut ligature. In several instances my suture was carried deep down into the interstitial tissue. Having carefully examined the uterus, I was convinced by its symmetric shape and decrease in size that I had at last found and removed every tumour which it contained. Nine tumours had then been removed through eight incisions. Bleeding had been inconsiderable during the operation, and finding that the slight oozing which followed the closure of each incision had practically ceased, I dusted aristol powder freely over the site of each line of sutures to prevent the formation of adhesions with the intestines, removed a few small blood-clots from the cul-de-sac behind the uterus, allowed the intestines to fall down and fill the pelvis behind the uterus, and then closed the abdominal incision with through and through interrupted sutures of silver wire.

The patient bore the operation well, and beyond a small abscess in the connective tissue of the abdominal wall at the lower angle of the wound, which was drained and carefully dressed as soon as discovered, her convalescence was uneventful. During the first three or four days after the operation the patient received two opium suppositories (U.S.P.) daily to obviate, so far as they might, any tendency to uterine muscular contraction.

The most important points, I think, in the technic of this operation were, first, that the uterus was supported and held steadily by the hand of my assistant grasping it posteriorly, great care being used to avoid jerking or handling the uterus unnecessarily; secondly, that in enucleating each myoma I

avoided drawing the tumour up out of its bed, but, holding it *in situ*, pushed back the peritoneal and interstitial tissue which enclosed it, either with my finger-nail or the handle of the scalpel, until I had reached the bed of the tumour and freed it. This method was slow, but it reduced excitation of the uterine muscle to a minimum and allowed very slow and gradual contraction of the bed of the tumour. Bleeding was reduced to a minimum and the lines of suture greatly shortened. I am convinced I owe it to this consistent effort to avoid, by every possible means, excitation of the uterus, that abortion was obviated.

The great lesson to be learned from this case is, in my opinion, the fact that hysterectomy may and should be avoided in all cases of myomas complicating pregnancy. If pregnancy can continue after so prolonged and irritating an operation as a 9-fold myomectomy, I cannot believe that myomectomy may not always be practised with equally as careful technic as was exhibited in this case. If the statistics which I have here collected and the history of my case shall save a proportion of foetal lives, by showing that we should not hesitate to give the patient and her child the chance which myomectomy offers, great good will have been accomplished.

I have searched all records most carefully for all the cases of this condition which have been reported up to date, beginning with Turner's report in 1874 and ending my researches with the month of April, 1901. As Turner's monograph is an elaborate and evidently carefully compiled work, and is acknowledged as trustworthy by all who have written upon the subject in question, I have accepted his statements as correct, but from 1900, when his statistics end, until April of this year, I have searched and verified myself the reference to all cases reported.

After convalescence the patient returned home and remained remarkably free from all pain and nausea. Owing to the great kindness and appreciation of the authorities of the Woman's Hospital, to whom I represented the very unusual importance and scientific interest of this case, and that she was unable to provide for herself fittingly at home, I was enabled to place this patient in the hospital for her accouchement. Although a free patient, she was given a private room and special nurses, and she and her baby were most carefully tended until I judged her fit to return home. I cannot say too much in appreciation of this action of the Visiting Committee of the Board of Governors and of the superintendent through whom I urged my request. All rules and precedent of the hospital were suspended, and this labour case was ungrudgingly admitted, not on grounds personal to me, but solely from a generous interest in the success of a case of unusual importance.

Several days passed beyond the date of her expected confinement with no symptoms of labour, until about 1 a.m., on November 2, the patient awoke with a violent pain of long duration, followed almost immediately by a second, and with this pain the head was born with great force. The entire duration of the labour, from the time the head engaged until the birth, was twenty minutes. In the course of a half hour the placenta and secundines came away spontaneously and intact and the uterus contracted firmly. There was no hæmorrhage, but owing to the rapidity and force of the uterine contractions the cervix was deeply lacerated and the posterior vaginal wall was torn extensively, almost down to the sphincter ani. I had been notified at my house, a mile away, by messenger, on the occurrence of the first pain, and arrived at the hospital forty-five minutes later. The patient was so exhausted then that I determined to put off any attempt at repair until later in the day. When I then placed her under anæsthesia and thoroughly examined the lacerated posterior vaginal wall—I did not intend to operate on the cervix—I found that it was so contused, œdematous, and friable that I judged it best for the patient not to attempt operative repair but to endeavour, by strict asepsis and approximation of the parts, to obtain the best results possible. To this end her legs were kept tied together and hot creolin douches with a Davidson syringe were given, by an experienced nurse, every three hours. Milk appeared on the third day abundantly. I kept the patient in bed for three weeks. At the end of that time normal involution had taken place in the uterus and cervix and the posterior wall had healed and lay well up in contact with the anterior. She left the hospital with her baby, a well-developed, healthy girl, on November 27, 1900, feeling entirely well.

Her convalescence from her labour was uneventful, and when I last examined her, before she left, the abdominal wall was firm. A month ago she came to my office to report, and I found a small abdominal hernia at the lower angle of the wound where the abscess had been. She confessed that as soon as she left the hospital she began to do heavy housework, including the family washing, and about a month thereafter she became conscious of a "weakening" at the lower angle of the wound. The uterus now is less than three inches in length, freely movable, and in normal position, while the cervix is cleft but is small, not everted and soft. There is no pathologic laceration there. The fascial tension of the floor of the pelvis is apparently intact, for the patient is entirely free from all subjective symptoms referable to this cause.

Shortly after my return to New York I shall operate upon the abdominal hernia, in my service at St. Vincent's Hospital, and expect to find no difficulty in effecting a cure.

PREGNANCY AND LABOUR AFTER MYOMECTOMY.

WEST (*Medical Record*, August 17, 1901), on the basis of the comparatively large number of instances now recorded in which pregnancy and labour have occurred after the enucleation of fibroids from the uterus, advocates myomectomy as a legitimate conservative procedure. He reports a personal observation in which nine incisions had been made in the uterine tissue to remove sixteen tumours ranging from the size of a hen's egg to

that of a pea; each incision was closed by chromicised catgut, and slight subsequent hæmorrhage controlled by hot compresses and some superficial sutures. The patient conceived the following year, twenty-two months after the operation, and bore a boy of 7·75 lbs., after a normal labour of twelve hours, the only accident being a lacerated perinæum. He quotes a number of other cases; in two blood or amniotic fluid found its way through a fistula in the abdominal wound, but the children were born healthy.

OSTEOMALACIA.

GAYET AND BONNET (*Rev. de Chir.*, February, 1901), say: The disturbance in the nutrition of the bones which permits them to be deprived of their lime salts and leads to the softening of the skeleton, may be local or general. Local osteomalacia may be traumatic, infectious, or due to certain nervous affections. The traumatic form is more common in those past middle age, is usually due to direct violence, and generally affects the vertebral column or the tibiæ. That infection may cause osteomalacia is not absolutely proved, though it is probable that influenza, tuberculosis, or syphilis may do so. The lesions resulting from the disease, whether local or general, are very variable, and show nothing specific. Reporting thirteen cases, the authors conclude that it is probable that various disturbances of the nervous system play an important part in the ætiology of osteomalacia. The good results of ovariectomy may be due to active elimination of phosphates under the influence of the ovarian secretions; when this elimination ceases, the softening process does so also.

DRENNAN (*New York Med. Jour.*, September 28, 1901) attributes the softening of the bones, in the osteomalacia of pregnancy, to the absorption by the foetus of calcium salts from the maternal blood.

FOTHERGILL (*Edin. Med. Jour.*, April, 1901) reports the case of a Polish nonipara of 48 years, who had borne eight living children. Towards the end of her sixth pregnancy she began to suffer from pain in the hips and legs and difficulty in walking. After her seventh labour, which was instrumental, she slowly improved, and became free from pain, but the muscular weakness and difficulty in walking remained. During her eighth pregnancy, two and a half years later, the pain returned in the hips and legs, and also affected the sacral and lumbar vertebræ and the arms, but after being delivered of a dead child, she again improved so considerably that she could walk without sticks. Her bad symptoms returned when she

again conceived; the child was delivered by Cæsarean section, and the pains again left her and she was able to walk without support. With the exception of a large ventral hernia she remained fairly well for six years, but noticed a gradual alteration in the shape of her body. Then, three years ago, the pain returned in the back and legs, became very severe, and extended to the chest and arms; bronchitis supervened and she finally became bedridden, yet under appropriate treatment, including large quantities of cod liver oil, she again improved and, with slight support, was able to walk.

Fothergill believes osteomalacia to be due to a primary affection of the central nervous system, which probably begins in the nerve cells of the anterior horns of the spinal cord. In men and non-pregnant women internal medication should, he thinks, be always patiently tried, together with hygienic and dietetic measures. In women, if the disease continues to progress, double oophorectomy may be performed, but should be followed by continued medication. In early pregnancy he recommends the induction of abortion, followed by suitable medical treatment; in the latter months one has to choose between the induction of labour and Cæsarean section; if the abdomen be opened the ovaries should certainly be removed,

VRBANIC (*Liecnicki viestnik*, Nos. 3, 4, 1901), Director of the Hospital in Gospié, in the course of four years, had under his care twenty-nine women with osteomalacia, all from one county in the south-west of Croatia, and finds that in the years 1898 and 1899 there were eight cases of the same disease from the adjoining county treated elsewhere. Five of his own exhibited the progressive and twenty-five the chronic form of the disease. None of them had borne less than two children, or more than ten, and there were more multiparæ (above four children) than parviparæ. Their ages ranged from 25 to 35, and from 40 to 45. Two of them were sisters who were victims long after they had been separated. He cannot believe that there is any connection between osteomalacia and rachitis, though he saw many children of osteomalacic women with rickets, and others with bad caries. He believes that both diseases are due to the same ætiological factor. Tuberculosis, scrofula and rickets are very common in the district.

The climate of that part of Croatia is very keen, dry, and healthy in general, not much forest, but chiefly rocky elevations. Geologically it is tertiary chalk. Lofty chains of mountains split up the country into numerous valleys, in which there is much malaria and pellagra (*ergotism*). The people suffer much from tuberculosis; they are extremely poor, and it is common for several families with numerous children to share confined

lowly and ill-ventilated dwellings. Their food, chiefly starches and milk, is inadequate. The women, as girls generally healthy and well-developed, soon fall away after marriage, owing to frequent child-bearing, prolonged nursing, premature exertion after child-bed, and above all bad nourishment and hard work. These are the factors that have most to do with the chronic form of osteomalacia, and, owing to repeated travail, there is no chance for the disease to be arrested, so that the tardive form passes into the progressive.

The cause of endemic osteomalacia is as obscure here as elsewhere, but it is remarkable that it infests two counties only, forming a mountainous region with poor inhabitants, and is confined, almost without exception, to women who have borne several children and suckled them overlong.

The symptoms of osteomalacia appear to be the same in Croatia as elsewhere; in one pronounced case, however, the pelvis was very roomy and not at all characteristic of the disease; another was complicated by ectopic gestation.

Most of the patients were admitted in very bad condition after being ill for from two to seven years. Four cases were pregnant from three to five months; in two of these women abortion was induced, and this was done twice in another, after which she was castrated and cured. One sufferer only came into hospital after nine days travail with an extra-uterine pregnancy and peritonitis, and died twelve hours after laparotomy. One woman had been delivered by forceps before admission.

The treatment lasted on the average seventy days. Six patients were discharged cured (one was reported so six months, and two two years afterwards); all the remainder were greatly improved, insomuch that they were able to walk, at the latest, in four weeks.

In discussing the differential diagnosis the author mentions a case of arthritis deformans which closely simulated osteomalacia, especially as regarded the severe pains and the way of walking.

The treatment recommended is the administration for from five to eight months, of from 3 to 6 teaspoonsful daily of a solution of 2 parts of phosphorus in 100 of cod liver oil. This always gave brilliant results without any inconveniences; but the author insists that the phosphorus must be persevered with and in sufficient doses. In the way of tonics he praises quinine and iron, and as regards baths he confirms v. Winckel's statement that the chief thing is water, and that anything added thereto plays a subsidiary part; he found simple warm baths always do much good.

The indications for the induction of abortion or premature labour will soon pass away, since with the recent advances in

surgical technic Cæsarean section is not alarming. It must, however, be remembered that spontaneous delivery is not impossible. The author has felt himself compelled to induce abortion three times in the third month, when the woman has been very weak, has suffered severely in previous labours, or would not entertain the idea of Cæsarean section. There was, moreover, the circumstance that the people lived a long way from the hospital, and were unlikely to send for any obstetrician, to say nothing as to their allowing him to operate if he were present. This was the reason that among such a large number of osteomalacic patients there were so few of the greater operation. Many deaths of pregnant women before delivery were reported to him, most of which he attributes to osteomalacia; he therefore thinks that the precept that osteomalacic women are to be kept under the observation of the district medical officer should be strictly observed.

The induction of abortion in these cases is a very difficult matter on account of the narrowness of the pelvis, and in one case the author was unable to withdraw a tampon he had introduced into the vagina until the third day; moreover, the abortion often leads to serious hæmorrhage and collapse.

In one case castration was completely successful, permanent cure being ascertained seven months later. Pseudo-menstrual bleeding occurred twice, three months after the operation.

The indications for the treatment are in conclusion thus stated.

In the osteomalacia of non-pregnant women diatetic and internal treatment with phosphorus and cod liver oil should be adopted, castration being reserved for the most severe cases. In pregnant women, if the last labour was an easy one, or at least was completed without obstetric aid, one should confine oneself to internal treatment, not, indeed, with any great hope of brilliant results, but in expectation that the coming labour may be completed spontaneously; if the last labour has been difficult, the patient be debilitated, and the osteomalacic processes far advanced, it will be necessary to induce abortion or premature labour, and subsequently castrate the patient. At term an attempt may be made to extract the child by the forceps before proceeding to perform Cæsarean section.—[From *Centralb. f. Gyn.*, No. 32, 1901.]

ECTOPIC PREGNANCY.

BLAND-SUTTON (*Lancet*, February 23, 1901), at the close of his third lecture on "Pregnancy and Labour complicated with Tumours," points out that a solid ovarian tumour incarcerated by a gravid uterus has been mistaken for an extrauterine foetus, and a sequestered extrauterine foetus may be a formidable obstacle

to delivery even when the abnormal pregnancy, perhaps not diagnosed, has been almost forgotten. But a sequestered foetus need not be an impassable barrier to the child. At the autopsy of a woman, aged 70, such a foetus was found which she had carried for thirty-five years; she had borne four children before and three after the extrauterine foetation (Leopold). When contemporaneous extra- and intrauterine gestation is recognised in the early months, surgical intervention has been successful; but when uterine and tubal pregnancy run concurrently and go to term the combination is most disastrous. In five instances mentioned, both children being quick, all the mothers died, in two both the children also; both the children lived in one, and an intrauterine and an extrauterine child survived respectively in the two others. In a sixth case Ludwig was happy in saving the lives of the mother and both the children.

ECLAMPSIA.

FEHLING, Strassburg (*Ninth Cong. Deutsch. Ges. f. Gyn.*, Giessen, May 30, 1901), said that in regard to what was comprehended by the term eclampsia, and to the pathogenesis of the disease so called, no definite, characteristic anatomical idea had yet been given us by pathological anatomy.

All the proffered hypotheses upon the essence and nature of the disease have proved untenable; all that now seems certain is that eclampsia is an intoxication of the maternal system, an intoxication most probably of foetal origin.

WYDER, Zurich, the second reporter, discussed the clinical aspect of the disease; among the prodromata, which in most cases may be noted by careful observation, an important part is played by qualitative and quantitative changes in the renal secretion (reduction in the amount of urine, albuminuria, cylinders, casts, renal epithelium, red corpuscles). Œdema is common and is worth special attention when it affects the face. Other forerunners are disturbances in the central nervous system, in the senses or in the digestive system, headaches, hyperæsthesia, sleeplessness, fibrillary muscular twitchings, loss of memory, perverted disposition, troubled hearing and vision, vomiting in the second half of gestation, gastralgia, &c. No satisfactory explanation has yet been found for the rise in temperature that frequently takes place in the course of the disease; hæmorrhagic and anæmic necrosis, parenchymatous hæmorrhages, embolism of hepatic cells may have some part in it.

Acute yellow atrophy of the liver, occasionally combined with eclampsia, should have the same ætiology and explain the intrinsic significance of the jaundice sometimes observed. The prognosis in every case is very doubtful. Under antiseptis and

a more rational treatment the maternal mortality has indeed improved, but is still 20 per cent. The following are the more important elements in *prognosis* :—

(1) The time at which the fits first occur ; before, during, or after labour ; the prognosis being the more unfavourable the earlier the fits begin.

(2) The intensity, duration, and number of the attacks, and the length of the intervals between them.

(3) The depth of the coma, the rapidity with which it supervenes after the first onset of the disease and its duration in the intervals between the fits.

(4) The reaction of the child to the eclampsia. The death of the child is favourable for the mother.

(5) The condition of the urine. The less the change, qualitative and quantitative, in the secretion, and the more rapid the return to normal, the more favourable the prognosis.

(6) Pulse and temperature. A pulse that continues small and frequent even in the intervals between the fits, points to impending paralysis of the heart.

Treatment.—As regards prophylaxis : The urine should always be examined in pregnant women, and should there be a positive result, the patient should be placed on a strict milk diet, her bowels be regulated by gentle aperients, and if the quantity of urine be diminished, the kidneys must be stimulated by mild diuretics. Diaphoresis is to be encouraged by warm baths and packing. If, nevertheless, further premonitory symptoms appear (vomiting, gastralgia, headache) one should induce premature labour, all manipulation for that purpose being under anæsthesia.

When the eclampsia has already declared itself the indications are :—

(1) To deliver the woman as sparingly as possible, without any excessive regard to the life of the child. It is best to dilate the genital canal without causing any loss of blood (Hegar's instruments, metreurysis).

(2) On account of the great increase in reflex irritability, every obstetric manipulation should be under anæsthesia.

(3) The labour must be conducted under the most careful observation of all antiseptic and aseptic precautions.

(4) The use of such drugs as chloroform, chloral hydrate, morphia and veratrum viride, the poisonous effects of which upon the heart, and to some extent upon the kidneys, is well known, must in every way possible be regulated to suit the individual case, and should be as limited as possible.

(5) To promote the elimination of the poison, the secretory functions of the kidneys, skin, and intestinal canal should be carefully stimulated in the least harmful manner.

(6) At least partial removal, and dilation of the poisonous.

matter circulating in the blood, by venesection in suitable cases, and by subcutaneous, intravenous or rectal injections of normal salt solution.

(7) Increase the oxidation of the blood by inhalation of oxygen.

(8) In case of impending collapse of the heart to administer stimulants such as ether, camphor, caffeine, &c.

SCHMORL, Dresden, said that investigation of the pathological anatomy of seventy-three additional cases supported the statements he had formerly made and showed, in contradiction to the thesis laid down by Fehling, that the condition found after death from eclampsia was certainly a typical one, and included a whole series of changes in different organs, which, when taken together, and not each one by itself, were quite characteristic. Briefly they are as follows:—

In the *kidneys*.—In nearly all cases degenerative processes; occasionally necrosis of the epithelium, commonly thromboses in the glomeruli and in the smaller veins and arteries.

In the *liver*.—Almost invariably degenerative processes in the hepatic cells as well as the well known anæmic and hæmorrhagic necroses. The hæmorrhages cannot be set down to contusions.

In the *lungs*.—Thromboses of the pulmonary vessels are very common and often accompanied by hæmorrhages; there are, moreover, in most cases fatty embolisms derived from the subcutaneous cellular tissue, the bone marrow, and pelvic connective tissue.

In the *brain*.—In fifty-eight out of sixty-five cases he found minute hæmorrhages and softening foci in the cortical substance, crus cerebri and nucleus caudatus, sometimes associated with thromboses.

In the *heart*.—In forty-two instances necroses and hæmorrhages in the muscular tissue.

Necroses in the *pancreas* and *suprarenal capsules* were also noticed. Finally, his investigations had shown that no sort of importance is to be attached to embolisms of parenchymatous cells; the frequency of secondary embolism of liver cells has been overestimated; embolism of the placental cells cannot be esteemed pathognomonic, for such occur where there is no eclampsia.

In the children of eclamptics he found degenerative processes in the renal epithelium and hæmorrhagic processes in the liver.

Pathological anatomy at all events proves that there is an alteration in the blood which leads to these several phenomena. Where we are to find the source of this alteration is not yet discovered.

In the discussion VEIT, Leyden, reported a new method of investigation based upon the fact that under normal circum-

stances portions of villi may be carried into the maternal circulation and there cause the formation of a poison (syncytiolysin) to which perhaps the typical changes of pregnancy are due. Pathologically an increased number of cells may so enter the maternal blood, and an excessive formation of poison take place. It is possible that in this way an antitoxin may be discovered.

CZEMPIN, Berlin, recognised in the placenta not merely a system of vessels, but an organ destined to effect a chemical modification in the products of metabolism.

LÖHLEIN, Giessen, and HERZFELD, Vienna, thought that a predisposing factor was to be found in compression of the ureters, and Löhlein, moreover, considered the induction of premature labour was justifiable in severe nephritis during pregnancy, not on account of a possibly impending eclampsia, but to prevent the transition into chronic nephritis, which he had himself observed. In treatment metreurysis was recommended by Nagel, Olshausen and L. Meyer, as well as by Löhlein. Cæsarean section is rarely justifiable. The results of Everke, Küstner, and Biermer, are far from encouraging.

P. MÜLLER and FRITSCH both insisted on the importance of prophylaxis, and that with sufficiently careful observation such prophylaxis might be successful.

FÄHLING, in replying, commented upon the wealth of experimental works which the selection of eclampsia as a subject had called forth. Though at present no positive result had been obtained, such might be hoped for within a few years. The most hopeful methods seemed that of Veit and Halban.

CÆSAREAN SECTION: FRITSCH'S INCISION.

SCHROEDER (*Monats. f. Geb. u. Gyn.*, 1901, Bd. xiii., S. 206) reports thirteen cases of Cæsarean section, of which four were fatal, and advocates the transverse incision as recommended by Fritsch in preference to the longitudinal one preferred by most operators.

The first fatal case was one of cancer of the cervix, and death was due to peritoneal infection; the patient had been a long time in labour, and no doubt the liquor amnii was infected by the disease. The second death was due to thrombosis or embolism, in a woman reduced to extreme anæmia by previous hæmorrhages. The third was caused by peritonitis; the woman had undergone vaginofixation, and, after the abdomen was opened, the uterus could not be brought into a suitable position; some of the waters escaped into the peritoneum, and as the patient's temperature at the time of the operation was 38.7° the liquor amnii was probably infected. In the fourth instance death followed secondary intervention for a utero-abdominal fistula left by the Cæsarean section: this woman had previously under-

gone hysterotomy, and at the second operation it was found that the transversal incision of the first had left no traces to speak of; the silk threads had been completely absorbed.

Schroeder does not admit that any of these deaths should be imputed to the transverse incision, the advantages of which he insists upon. When made on a woman in the Trendelenburg position, this incision allows the waters to escape over the thorax of the patient; the peritoneum is thus exposed to far less risk of infection. Moreover, it is the best way to avoid the placenta; in only one of the thirteen cases did the placenta lie on the fundus. Of course, if one should happen upon the placenta, it is best to cut freely through it, extract the child at once, when the hæmorrhage will be promptly reduced by the involution of the uterus which immediately follows delivery. As the transverse incision is parallel to the vessels of the fundus, it is not followed by more hæmorrhage than the longitudinal one.

Among ninety-four cases of the transverse incision, published in this article and elsewhere, Schroeder has only found fourteen in which any considerable hæmorrhage, at the time of the incision, is recorded, and in most cases it is stated that the bleeding ceased when the uterus contracted. Moreover, hæmostasis can always be secured by suture of the incision or of the angles of the wound near the tubes. In three instances only the hæmorrhage persisted in spite of the means employed to control it, without any apparent reason except atony of the womb; atony in no way connected with the method of section. Circular compression of the neck of the uterus would, of course, be useless, as it would not affect the vessels of the fundus.

The rapid extraction of the fœtus is the best hæmostatic, since the uterus immediately contracts upon itself, and the incision of Fritsch has the very great advantage of securing such rapid extraction. By it one almost invariably comes upon one end of the child, either the head or the breech; by the longitudinal incision, upon the trunk. When the fœtus has been removed it is perfectly easy to inspect the whole of the uterine cavity down to the lower segment; the membranes can thus be withdrawn entire, leaving no fragment to occlude the cervix and so cause retention of the lochia. The objection has been made that the transverse incision is likely to be followed by adhesions to the intestines, but the gravid uterus being normally in ante-flexion, the suture comes into direct contact with the abdominal wall much more exactly than the classical anterior incision, which only does so at its upper end.

Such adherence to the abdominal wall is a great advantage in case of suppuration; it is true that the result may be ventro-fixation, but that will not entail any great inconvenience in future pregnancies.

JOSEPHSON (*Nord. med. Arkiv.*, xxxiv., 1) reports a case of Cæsarean section by Fritsch's incision, followed by intestinal occlusion; on reopening the abdomen, the colon, some loops of the small bowel and the great omentum were found to be adherent to the uterine wound. The adhesions were separated without much difficulty, and the fundus was fixed to the abdominal wall. The patient showed some signs of intestinal paresis for several days, and a month after the first attack again suffered from occlusion, which, however, yielded to medical treatment.

Josephson, while he recognises the advantages of the transverse incision, especially in regard to the position of the placenta and the easy extraction of the fœtus, considers the possibility of diffuse suppuration or intestinal adhesions due to the sutured uterine wound too great a risk, and declares that in future he will return to the classical longitudinal incision.

CÆSAREAN SECTION: TAMPONADE OF THE UTERUS.

VICARELLI (*Archivio di Ost. e Gin.*, July, 1901) recommends that in conservative Cæsarean section, after the fœtus and membranes have been removed, the uterus should be plugged with sterilised gauze, the end of which has been passed through the cervical canal into the vagina. He says that this tamponade (1) is reasonable in application and particularly effective in preventing hæmorrhage and infection; (2) very simple in execution; (3) does not impede the discharge of the lochia, the normal involution of the uterus, or the cicatrisation of the wound; (4) may without any inconvenience be removed by the vagina during any of the first three days of the childbed; (5) allows the time for the performance of the section to be chosen without regard to the commencement of labour, without fear of hæmorrhage from uterine inertia.

Seven cases have been successfully treated by this tamponade, though the patients were threatened with the two dangers, hæmorrhage and infection, from which we have most to fear. Moreover, the more recent cases, including the one he now reports, were operated on at term, but before labour had begun, without suffering any inconvenience on that account.

From the operative or didactic point of view, as also in regard to the prognosis for the mother and child, there is, he insists, a great advantage in not being constrained to wait till labour has set in and the cervix begun to dilate.

F. E.

CÆSAREAN SECTION.

CLARENCE WEBSTER (*Amer. Journ. Obstet.*, February, 1901) successfully performed Cæsarean section upon a girl, aged 13, with a pelvis justo minor; she was of weak intellect and no

history could be obtained, but she was about eight months pregnant, and conception must have taken place at the age of twelve years; C.V. 9.2 cm. She had severe hæmorrhage and tendency to syncope, with a rapid and thready pulse; the uterus was in tetanic spasm; any manipulation increased the loss of blood, and the parts were very narrow. The foetus (head presenting to the right) was in a position of dorso-flexion; it was well developed for the eight months. The placenta was attached one quarter upon the lower segment and the rest upon the posterior wall of the uterus.

CÆSAREAN SECTION FOR THE THIRD TIME.

WIENER (*Monats. f. Geb. u. Gyn.*, April, 1901), relates the following case: A dwarf had undergone Cæsarean section twice, and after the second operation, in 1887, the wounds in the abdominal wall and uterus had reopened and suppurated; a utero-abdominal fistula was left which gradually dried up, but the infundibulum in the skin, at the bottom of which it had opened, remained constantly choked with thick scabs; no blood had ever been discharged from it at the menstrual periods.

On January 3, 1901, she was admitted into the hospital as an urgent case; pale, anæmic, and steeped in blood; from the bottom of the old fistula a jet of blood, of the calibre of a knitting needle spouted from time to time. The patient was in a state of syncope and the orifice having been plugged, the first business was to restore her. A rapid examination then showed that she was eight months pregnant; her conjugata vera was 7.75 cm.; the sounds of the foetal heart were inaudible.

In fear of renewed hæmorrhage, and in view of the narrowness of the pelvis, Cæsarean section was at once undertaken. The fistulous aperture was closed by forceps, and the abdomen was opened. After the separation of numerous firm adhesions between the uterus and the abdominal wall, the intestines and omentum, the uterus was opened transversely, and the child, which was just dead, was easily extracted; it weighed 2,000 grammes. The intervention was completed by Porro's method and by the resection of the cicatricial tissue of the abdominal wall, which was accurately closed by sutures. Saline injections were used freely, and the patient regained consciousness and recovered without any incident.

The anterior wall of the removed uterus measured 4.5 cm. in thickness, and consisted chiefly of cicatricial tissue; the infundibulum in the skin extended into the wall, but did not communicate with the cavity of the uterus; the placenta was situated on the anterior wall, and to its detachment one must attribute the violent hæmorrhage which had taken place.

BALDY (*Amer. Journ. Obstet.*, January, 1901) performed Cæsarean section in the following case: A woman, pregnant about seven months and a half, was found to have an enormous cauliflower cancer of the rectum, commencing about 2.5 cm. above the sphincter. She was in a state of extreme cachexia, and suffering constant griping pains, and vomited nearly everything that she took. The induction of premature labour would no doubt have relieved her, but even if it were possible for the fœtus to be delivered by the aid of forceps, it was much to be feared that the tumour might be seriously crushed, and that the woman might die from hæmorrhage or shock. After the child had been removed by Cæsarean section the condition of the mother improved greatly, and the child, though weighing only 1,700 grammes at birth, seemed likely to develop normally.

J. F. J.

GLASS (*Medical News*, June 15, 1901), reporting two successful Porro-Cæsarean operations, the first on account of a cervical carcinoma invading the posterior vaginal wall, and the second on account of a sloughing cord presenting after several days' labour, implying a dead child and presumably a septic uterus, insists that in view of the practically identical mortality of the classical Cæsarean section and the Porro operation, tubal excision for the purpose of sterilisation and prevention of future pregnancy is unwarrantable, as the uterus is left without any function to perform and may be a source of subsequent trouble; but that whenever possible an ovary or part of one should be preserved, as the influence of the ovarian secretion on general nutrition and in preventing the nervous disturbance incidental to the early and artificial menopause, has been conclusively proved. The patient in the first case died from nephritis, supervening upon recurrence in the bladder, one year after the operation.

CÆSAREAN SECTION FOR PLACENTA PRÆVIA.

DONOGHUE (*Boston Med. Surg. J.*, Dec. 6, 1900) narrates a case of successful Cæsarean section for central placenta prævia on a woman, aged 40, who had lost much blood; the operation took forty-five minutes, and both mother and child did well.

At the County Medical Society (*Phil. Med. Jour.*, March 23, 1901), BOYD read a paper on the "Indications for Cæsarean Section in Placenta Prævia." In the Philadelphia Lying-in Charity there has been, in 2,887 deliveries, one instance of placenta prævia in every 107 cases; he estimated the maternal mortality at from 10 to 12 per cent. The fœtal mortality had been 81.5 per cent. He held that if hæmorrhage came on before the fœtus was viable,

forceps delivery or version might suffice, but that after viability Cæsarean section was indicated.

In the discussion great exception was taken to this view. HIRST said that the mortality had been placed too high; he had himself in twenty-four cases not had any maternal death, and considered that anyone attending enough cases to be called a specialist should look for a death rate for the mothers of less than 1, and for the children of less than 50 per cent. Cæsarean section was not justifiable on account of the infant mortality because it increased the risk for the mother. WILSON, even in the most serious cases, would prefer to penetrate the placenta and turn. NORRIS did not approve of Cæsarean section as a method of dealing with placenta prævia, and thought that the statistics of the operation in the hands of specialists had a bad effect on practitioners.

GILLETTE (*American Medicine*, June 22, 1901) admitting that the high foetal mortality is the only indication for a new operation for placenta prævia, thinks that Cæsarean section, if generally adopted, would reduce this mortality to 10 per cent. or less, without greater danger to the mother than such as is usually incurred during any of the current methods of treatment. The classical operation should be adopted when the uterus contracts firmly and there is no probability of infection, and when the patient is in a condition to withstand the shock of a prolonged operation; but when the uterus does not contract firmly, so that hæmorrhage is probable, and when the patient is unable to withstand shock, the Porro operation is in his opinion the only procedure warranted.

FRY, in an article on "The Relative Merits of Bipolar Version with slow Extraction and Accouchement Forcé in the Treatment of Placenta Prævia," calls attention by his table to the large proportion of primiparæ—seven out of the fourteen cases reported, or 50 per cent. Bipolar version and slow extraction were employed nine times; membranes ruptured and delivery left to nature, once; tampon and natural delivery, once; forceps extraction, four times, including one application to the after-coming head following bipolar version. All of the mothers recovered, and five out of the fifteen infants were born alive. Of the children lost, two (twins) were not viable, one was at the seventh month, and four were dead when the case came under observation.

The following comments on the above subject (*American Medicine*, June 29, 1901) are, we think, quite justified, and will find general acceptance:—

"The recent advocacy of this radical treatment for placenta prævia demands a word of comment and caution, and, possibly, a word of condemnation. The one argument in its favour is that it reduces the fearful foetal mortality in these cases. But the question is, whether an increased maternal mortality will not ensue if such a procedure is extensively adopted. The splendid results attained by Fry, of Washington, who employed bipolar version, thus saving fourteen mothers and five children in fourteen cases of placenta prævia, and by De Lee, of Chicago, in the use of the tampon in a series of twenty-five cases without maternal mortality, show pretty conclusively that, if proper care is taken, the maternal death-rate may be very satisfactory. This condition is rarely recognised until labour is in progress. It is usually diagnosed and treated by the general practitioner, and he is generally better equipped for the treatment of this complication by version, and other conservative methods, than by Cæsarean section, and if such radical teaching should be disseminated and be adopted we believe the maternal and foetal mortality would be increased. It is unfair to apply to these cases of ectopic placenta the admirable statistics of Zweifel, Olshausen, Reynolds and others, who have reduced the mortality of the Cæsarean operation to 3 per cent. in elective cases for contracted pelvis. The pathologic condition is essentially different, the choice of time for operation, and often the diagnosis of lesion, radically different, and the results will vary materially. Cæsarean section for placenta prævia will, probably, always be a dramatic maternity-hospital operation, only applicable occasionally, and never generally adopted by the rank and file of medical men for the relief of this dangerous complication of gestation."

RUPTURE OF THE UTERUS.

KLIEN (*Therap. Monatsh.*, May, 1901), concludes on the basis of 347 available cases which he has collected that in practice the best results are given by drainage with a rubber tube. Drainage or plugging of the laceration or of the uterus with gauze was far less successful. Only in the case of dangerous hæmorrhage should operation be at once resorted to on the spot. The escape of the child into the peritoneal cavity does not indicate, by itself, cœliotomy if delivery is possible *per vias naturales*. If when cœliotomy has been resorted to on account of dangerous hæmorrhage the wound is found to be a simple one, and there is no fear of infection, the laceration may be stitched up, otherwise the supravaginal amputation of the uterus should be performed, the treatment of the stump being intra or extraperitoneal, according to the circumstances of the case. Vaginal total extirpation, which is to be recommended

in case of extensive anterior or posterior laceration when there is fear of infection, is not to be thought of when the tear is ascertained to be at one side, as perfect hæmostasis is in such cases not infrequently impossible.

TARNIER'S DILATORS.

CAVACINI (*Archivio di Ost. e Gin.*, May 1901), feels justified, from practical experience of Tarnier's dilators, in saying that though these instruments are far from being perfect as regards their metallic nature, their construction, and mechanism, their disadvantages are rather less than those of any similar instruments made of metal. The principle on which they are designed makes them an efficient means of effecting rapid dilatation, but the dangers inherent in such rapid methods are grave reasons against the use of the necessary amount of force in ordinary cases. The cautious procedure adopted in the Florence Clinic is a valuable means of avoiding the possible disasters of mechanical dilatation, and the delay it entails does not prevent the results obtained from being very satisfactory.

The Florence method is as follows: The dilation is begun by Hegar's or similar dilators and then the uterus is plugged with iodoform gauze as recommended by Dührssen. When this is removed at the end of thirty-six to forty-eight hours the dilators of Tarnier are employed to complete the dilatation.

In the great majority of cases in which the necessity for dilatation of the uterus may arise, Tarnier's dilators used in this way will be of much assistance and may be recommended.

F. E.

PUERPERAL THROMBOSES OF THE VEINS OF THE SMALL PELVIS.

HEIDEMANN (*Monats. f. Geb. u. Gyn.*, April, 1901) has met with the ordinary form of puerperal thrombosis affecting the superficial varices of the thigh or leg, and generally coming on about the second day after delivery, 30 times in 1,200 cases. There is another kind, much more serious and not quite so frequently seen, in which the clots develop in the veins of the small pelvis, and this he has observed in 27 instances. This form is frequently associated with uterine infection; it is very insidious for fever is sometimes absent, and the clots in the lower limbs which afterwards develop do not in this case show themselves till the end of the first week. However, from the early days of the childbed troubles may be observed that which may be looked upon as prodromata, and which suggest infection: headache, general lassitude, weakness of the heart, and gastric symptoms, with, moreover, tenderness on pressure, either over

the uterus or cavity of the pelvis, at the side on which the thrombosis is about to form; this tenderness extends as far as to where Poupart's ligament is crossed by the femoral vein. At the same time a sign appears to which Heidemann attributed much importance, and this is abdominal meteorism, depending perhaps on a septic intoxication derived from the uterus acting upon the terminal nerves of the intestine.

The prognosis depends greatly upon the condition of the heart; for the coagulation to be arrested and retrocede, the weakness that is generally present must be remedied, and the abdominal meteorism has a pernicious effect on the heart.

No doubt these thromboses are due to infection through the seat of the placental insertion; in four instances Heidemann verified the formation of the clots on the same side of the uterus as that upon which the placenta had been inserted.

HYPODERMIC INJECTION OF QUININE IN PUERPERAL INFECTION.

AUFRECHT (*Therap. Monatsh.*, May, 1901), has found the subcutaneous injection of quinine a useful addition to local measures in the treatment of puerperal fever. He was led to try it by the good effects of such injections in pneumonia and by the fact, established by experiment as well as clinically, that the diplococcus pneumoniae can cause puerperal endometritis.

PARTIAL HYSTERECTOMY FOR PUERPERAL SEPSIS.

VINEBERG (*Amer. Jour. Obst.*, September, 1901), in a case of high temperature after confinement, with a rapid pulse, enlargement of the uterus, fulness of the left broad ligament and pain in the left groin, opened the abdomen and found a suppurating slough in the fundus and left cornu of the uterus. It was excised and the resulting wound touched with pure carbolic acid. A good recovery followed. This excising of a portion of the uterus which has suppurated and sloughed "is based on an entirely different indication from that of hysterectomy for puerperal sepsis of uterine origin." When the uterus is uniformly infected, it must either be removed totally or let alone. If there is localisation of infection to a portion, it may be excised. It is not always easy to distinguish between them at the bedside. "When a case of puerperal sepsis evidently of uterine origin is not pursuing a favourable course under approved methods of palliative treatment, the abdomen should be opened and the future plan of action be guided by the condition found."

J. F. J.

HISTOLOGICAL CHANGES IN THE POST-PARTUM UTERUS IN CASES OF ACUTE STREPTOCOCCUS INFECTION, WITH AND WITHOUT THE USE OF ANTISTREPTOCOCCIC SERUM.

KLITIN (*Vratch*, 1901, No. 25), after reviewing all the cognate literature and reporting his own cases and experiments, concludes as follows:—

(1) The changes in the cornua of a rabbit's uterus after labour followed by the immediate introduction of a culture of the poisonous streptococci, are characterised by the occurrence of patches of necrosis, both in the mucous membrane and the muscular coat, full of masses of streptococci. The vascular channels are greatly distended with granular masses of the same micro-organisms; the endothelium of the vessels is swollen and in places has fallen off. In the parenchyma of the horn of the uterus the tissue elements are atrophied and diminished in number. Restorative reaction with granulation elements and white corpuscles is either feebly marked or entirely wanting. The same changes are met with in early as in late infection after labour, but in the latter a recurrent complication is produced by the discharge. (2) The mucous membrane and the deeper layers of the walls of the vagina, exhibit an extension of the changes seen in the cornua, varying with the time of their infection after labour. In cases of rather earlier infection the changes are much the same as those above mentioned, except that they are not so widely diffused, the patches are smaller, and the endothelium of the vessels is not affected. In cases of later infection vitreous degeneration of the muscular fibres is met with in parts, there are more cellular elements and their distribution is closer, and there are fewer streptococci. The vessels are distinctly dilated and contain many formed elements of blood. (3) In cases in which antistreptococcic serum was used, its reaction upon the cornua of the uterus was direct and certain and the tissue elements retained enough vitality to be able to regenerate the mucous membrane and to some extent the muscular layer also. Granulation tissues and white corpuscles were seen. Morbid changes were evident in the marked engorgement of the vessels with blood, but this was not general. Streptococci were very rare, and on morphological and microchemical examination exhibited involutionary forms and loss of their previous virulence. This was so whether the serum was used in the early or later period of post partum infection. (4) The influence of the serum upon the cellular elements is such that the poisonous effects of the streptococci on the system are much diminished; and (5) the infected mother when treated with the serum in every case outlived the experiments.

F. E.

NOTES.

WE have, with great regret, to record the death of:—

Dr. A. E. AUST LAWRENCE, Professor of Midwifery and the Diseases of Women in the British Medical School; Dr. ALFRED VAVCHER, formerly Professor of Obstetrics and Gynæcology at Geneva; Dr. GUIGNARD, formerly Professor of Clinical Obstetrics and Gynæcology at Angers; Dr. NICANOR GUARDIA, formerly Professor of Obstetrics at the Faculty of Medicine of the Caracas.

Dr. J. HALLIDAY CROOM, Consulting Gynæcologist to the Edinburgh Royal Infirmary, has been elected President of the Royal College of Surgeons, Edinburgh.

Dr. LOMBE ATTHILL has been elected President of the Royal Academy of Medicine of Ireland.

Dr. E. J. MACLEAN, M.D.Edin., M.R.C.P.Lond., has been elected Gynæcologist in the room of the late Dr. John D. Williams, and Dr. E. TENISON COLLINS second honorary Gynæcologist to Cardiff Infirmary.

PROFESSOR BUDIN has been appointed an Officer of the Legion of Honour.

Dr. PAUL F. MUNDE, of New York, has resigned the Chair of Gynæcology which he had held for twenty years, and has been elected an Emeritus Professor of Gynæcology in Dartmouth College.

Dr. A. N. SOLOVIEFF, of Moscow, has been appointed to the Chair of Midwifery at Dorpat. Dr. GUBAREFF, of Moscow, has been appointed Extraordinary Professor of Midwifery and Children's Diseases.

MUNICH:—Dr. GUSTAV KLEIN, *privat-docent*, has been appointed Extraordinary Professor of Obstetrics and Gynæcology.

Dr. R. H. POMEROY and Dr. J. O. POLAK have been appointed Lecturers in Midwifery at Long Island College Hospital, Brooklyn.

DR. B. S. SCHULTZE, Professor of Gynæcology and Obstetrics at the University of Jena, celebrated the completion of his fiftieth year of practice on August 28 last.

It is with regret that we hear of the continued ill-health of Dr. MAX SAENGER, Professor of Gynæcology at the German University of Prague.

Privat-docent DR. KARL AUGUST HERZFELD has been appointed Extraordinary Professor of Gynæcology at Vienna.

THE following appointments as *Privat-docenten* of Gynæcology and Obstetrics are announced :—

Dr. OTTO AICHEL, at Erlangen; Dr. ROLAND STICHER, at Breslau; Dr. HENREICH FÜTH (Assistant at the University Women's Clinic), at Leipsic; Dr. EMIL KNAUER, at Vienna; Dr. CARLO CUCCA, at Naples; Dr. CARLO FERRARESI, at Sienna.

A REMARKABLE case is reported in which labour was obstructed by a long, rounded tin box, four inches in diameter and 1.75 inches high, lying within the uterus across the os. The woman, a primipara of 27, admitted that, as a child of twelve, after her first menstrual period, she had passed the box into the vagina to stop the bleeding. She married at 25, aborted six months afterwards, and some time after the abortion found that the box was no longer within her reach. The box was successfully removed, and after the division of some cicatrical tissue in the cervix the child was born without assistance, and the mother made a good recovery. The case would still be a singular one if the diameter of the box had been 1.75 inches and the length of it 4 inches. (*B. M. J.*, E., No. 161, 11, 1901).

SUPPOSITORIES containing about 0.45 grains of cocaine are recommended by WESTPHALEN, of Flensburg, in spasmodic labour pains, and when the dilatation of the os being nearly complete, and the waters broken, the uterus is wanting in expulsive force. He has employed this method in forty cases, with good results. The dose mentioned should not be exceeded, but if necessary a second suppository may be introduced after an hour and a half.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS. FEBRUARY, 1902.

THE FORMATION OF THE HYMEN.

PESTALOZZA (*Annali di Ost. e. Gin.*, 1901, Settem.) points out that the notions which we have of the early stages of the formation of the hymen are still to some extent uncertain. Most of the investigations relating to it have been carried out at a stage in the development of the embryo when the communication of the genital tract with the cloaca has been already established.

Nagel says that about the third month the superficial epithelium of the vagina takes on freer growth and accumulates just above the ostium vaginale, while the vagina becomes dilated at this point, and that the hymen arises through this dilatation; in fact, that the hymen is simply due to the entrance to the vagina remaining narrow, while the lumen of the canal immediately above it is enlarged.

According to this view, the question whether the hymen arises from vulval or vaginal tissue is superfluous. But if the hymen is considered as the remnant of the original septum, separating the vagina from the urogenital sinus, we must go back to a very early stage of development to find out whether the excavation which opens communication is due to intrusion of vaginal or of vulvar epithelium.

Specimens of these early stages of development are most difficult to obtain, and so far have not been studied. It is therefore necessary to find some other means of solving the question, and such fortunately are met with in cases of malformation.

In a case of retention of menses from imperforate hymen in a girl aged 14, Pestalozza incised and then removed the hymen, stitching together the vaginal and vulvar mucous membranes. The hymen so removed he examined microscopically by series of sections after staining, and found that the vaginal epithelium tends to resume its original cylindrical form whenever it is in an enclosed space. The cellular tissue of the hymen is very rich in vessels and contains channels or tubes lined with squamous epithelium, derived from the vulvar epithelium; it is this vulvar epithelium that leads

to the perforation of the hymen. The cases in which, with atresia or absence of the vagina, the hymen has been found complete and perforated also point to the origin of the hymen from the vulvar tissues.

Pozzi considers that the hymen corresponds to the bulb in the male, and the presence of such numerous vessels support this idea.

This abdominal case is not offered as conclusive evidence, but it supports the notion that the epithelial protrusion proceeds from the external to the internal genitals.

F. E.

OPERATION FOR VESICO-VAGINAL FISTULA.

WOLKOWITSCH, Kieff (*Centralb. f. Gyn.*, 1901, No. 43), recommends a plastic operation for closing difficult vesico-vaginal fistula which he has successfully employed in eight cases; it consists in freshening the uterus (or cervix) and the fistula, and then fixing the uterus in a new position. He begins by division of the cicatricial ring, then liberates the cervix from the cicatricial tissue round it, if possible without injuring the peritoneum, and draws the uterus down to the urethra. The fistula is freshened so as to deprive its edges of their cicatricial character; as a rule, no stitching of the vesical mucosa is required. The final act in the operation is to fix the depressed uterus to the fistulous aperture with three or four stitches. To keep urine out of the wound, Wolkowitsch, before beginning the plastic operation, opens the bladder above the pubes, inserts a drain, and conducts the urine through a rubber tube into a vessel on the floor. Of his eight cases, five were completely cured, three are still under treatment.

LATE UTERINE SYPHILIS.

SPINELLI (*Archivio ital. di Gin.*, 1901, No. 6) discusses the late symptoms of syphilis in the uterus; which are, he says, little known to syphilographers and not recognised at all by gynecologists. He has seen two cases himself and holds that the differential diagnosis of gummatous, tubercular and carcinomatous disease of the uterus is quite possible.

The affection, as he describes it, is characterised by menorrhagia constantly becoming more severe and more copious. The uterus is hypertrophically and uniformly enlarged: its mucosa exhibits no alteration; examination of the adnexa is negative. The use of the curette gives only temporary improvement and after it the bleeding often returns in profuse menorrhagia. Nothing but specific treatment is of any use in controlling the flooding and regulating menstruation. In the climacteric age the disease betrays itself by leucorrhœa, and

alarming losses of blood, soon followed by debility and cachexia. Examination reveals senile atrophy of the neck and body of the uterus. The curette yields only a detritus of atrophical mucous membrane. Metrorrhagia resisting all treatment, is, according to Spinelli, a sure sign of late uterine syphilis and is due to specific endarteritis.

DYSMENORRHOEA.

MENGE, Leipsic (*Centralb. f. Gyn.*, 1901, No. 50) discusses the true nature of dysmenorrhœa; he distinguishes two forms, one primary and idiopathic, and another secondary and dependant on other disease of the genitalia. He holds that dysmenorrhœa is always caused by menstrual contractions of the uterus due to a pre-menstrual swelling of the uterine mucosa, and to the presence of the menstrual blood. In women sound in body and mind, these contractions are not felt, but they become painful in (1) hysteria and neurasthenia, (2) in diseases of the genital or (3) pelvic organs. Menge concludes that dysmenorrhœa without pain does not exist, but that many instances of dysmenorrhœa are merely results of a diseased nervous system, and therefore that the treatment must in the very first place depend on the cause. For the nervous system dietetic measures and physical therapeutics (massage, hydrotherapy and gymnastics) and the removal of the patient from her environment are very beneficial. The action of nasal applications is, in Menge's opinion, essentially a suggestive one.

ON NEOPLASMS OF THE MALFORMED UTERUS.

JOSEPHSON, Stockholm (*Archiv. f. Gyn.*, Bd. lxiv., Heft 2), referring to previous works from Landau's Clinic upon the relation between new growths and deformities of the womb, discusses two cases of uterus unicornis examined there: (1) *Uterus unicornis sin.*, the only part of the Müller's duct left on the right side being the fimbriated end of the tube; the distal section of the cervix was replaced by a mesonephric adenomyoma. (2) *Uterus unicornis dexter* with carcinoma of the anterior lip; rudimentary left cornu with hydrometra and adenomyoma of mucosa. He also reports the development of a spherical myoma from a hyperplastic embryonal septum between Müller's ducts, and cases of carcinoma and sarcoma in ill-developed uteri.

MULTIPLE HYDATIDS OF THE PERITONEUM AND PELVIC CONNECTIVE TISSUE.

SILLER, Vienna (*Centralb. f. Gyn.*, 1901, No. 48), reports the above in a woman, aged 27, who, six years previously, had been tapped for an hepatic hydatid cyst. Her abdomen had gradually enlarged, and she suffered from increasing spasmodic

pains in the sacrum. On laparotomy a large cystic tumour was found in the small pelvis, and numerous others, from the size of a hemp-seed to that of a goose's egg, on the omentum and visceral and parietal serosa. The omentum was resected, the large tumour opened and stitched to the wound, but the smaller ones could not be treated radically on account of their large number. Uninterrupted recovery. Siller supposes that the result of tapping had been to disseminate over the whole peritoneum germs, from which the multiple tumours had afterwards developed.

THE PATHOLOGY AND TREATMENT OF PARAMETRITIS POSTERIOR.

Bröse, Berlin (*Zeits. f. Geb. u. Gyn.*, Bd. xlvii., Heft. 1), recalls the fact that as long ago as 1876, B. S. Schultze described, under the above name, an inflammatory affection of Douglas' pouch involving the ligamenta sacro-uterina, and that the malady so-called corresponds with W. A. Freund's "paraproctitis atrophicans." In its ætiology, puerperal and other infections, especially gonorrhœal infection, are the main factors. Ziegenspeck declared its origin lay in the pelvic connective tissue, a view which Küster has recently impugned, holding it to depend on peritonitic processes. Bröse now, on the basis of ten personal observations, dissents from Küster, considering that it is the pelvic connective tissue and not the peritoneum that is the seat of the lesion. Parametritis posterior is, however, often associated with lesions of the peritoneum or adnexa. For its relief, even when the uterus is antelected, ventrofixation is an excellent proceeding; and in all cases of retroflexion in which the uterus is fixed by parametritic processes or which are complicated by chronic parametritis, Bröse considers that ventrofixation should be preferred to any other operation for the displacement.

PARAMETRIC CICATRICES AND THEIR CONSERVATIVE TREATMENT BY OPERATION.

v. OTT, St. Petersburg (*Semaine Méd.*, December 18, 1901), has utilised the principle adopted in operating upon cicatricial scleroses of the alimentary canal to prevent their cut edges reuniting after section, in the treatment of the parametric cicatrices due to pelvic inflammation. This principle is to insert the sutures in the same direction as the line of the incision instead of perpendicular to it. If, for example, a cicatrix were due to the sclerosis of the connective tissue of the lower part of the broad ligament, the corresponding part of the uterus would, in consequence of this sclerosis, be more or less drawn towards the pelvic wall of one side. If the constraining bridle were

divided from before backwards, and the uterus were drawn towards the opposite side, there would be at the seat of the incision an empty oval space, the long diameter of which would be directed, not from before backwards, but transversely; then, by passing a series of sutures so as to interpose sound tissue between the two lips of the wound, while the uterus would be allowed to take up its normal position, it would be rendered impossible for the two ends of the divided cicatrix to form fresh adhesions.

v. Ott, who has employed this method for more than three years and has had opportunities of proving it on a considerable number of patients, has found the course after operation and the ultimate results very satisfactory. For instance, one patient, in whom the results of compression were so pronounced that she could by no means extend the leg of the side affected, was completely and immediately relieved by the operation. Another woman, whose sufferings had persisted for eight years, conceived soon after the operation, and was delivered at term without the least trouble.

In regard to the technique of the operation, much depends on the seat of the lesions and their relations to the neighbouring organs. If, for instance, one has to do with a contraction of the utero-sacral ligaments, it is of course necessary to open the peritoneum. The dangers of such a proceeding are by no means so great as when the lesions are situated in the broad ligament and there is a risk of wounding the uterine artery or the ureter. In case of difficulty in isolating the latter, preliminary catheterisation may be of use.

This conservative method of operating of v. Ott's is practicable by the vaginal route, and available even when the lesions are deep in the pelvis. Healing may then be by second intention, in spite of laminated sutures, but the resulting cicatrices will be much more amenable to treatment by massage than plastic products which have long been organised.

ADHERENT RETROFLEXION AND ITS TREATMENT.

DIETEL, Zwickau (*Archiv. f. Gyn.*, Bd. lxxiii., S. 262), found that among 2,155 women treated by him during three recent years, 112, or 5·2 per cent., were afflicted with adherent retroflexion. Treatment was declined in 9 cases, and in 11 it was not completed; of the remaining 92 only 4 were recent, all the others having existed for many months or years. He divides these 92 cases into two groups: (1) direct and (2) indirect fixations. In the former the serosa covering the posterior wall, and especially that over the fundus of the uterus, was fixed to the parietal peritoneum of Douglas' pouch or to that covering the rectum, and the appendages were healthy. There were 34 such

cases of direct fixation and 54 of indirect. In 32 cases (7 direct and 25 indirect) Dietel employed massage. The sittings were from seven to eight minutes, and were discontinued during menstruation. For the direct cases he employed Küstner's method of reposition by the introduction of one finger into the rectum, under anæsthesia; in 44 instances (23 direct and 21 indirect) he used B. S. Schultze's method of separating the adhesions and replacing the uterus under anæsthesia, and 32 were cured; while of 32 cases treated by Küstner's method, only 7 were successful. Dietel therefore recommends B. S. Schultze's method for all cases, especially in direct fixation, for which it is admirably adapted. Dietel is greatly in favour of the abdominal rather than the vaginal route for all cases requiring operation.

P. Z. H.

THE SHORTENING OF THE ROUND LIGAMENTS BY THE VAGINA.

BUCURA, Vienna (*Zeits. f. Geb. u. Gyn.*, Bd. xlvii., Heft 2), writes in favour of the operation recommended in 1886 and since performed by Wertheim in 86 cases. Of these women 2 had recurrence of the displacement when discharged, 7 women had subsequently had normal labours, 3 had aborted, and 3 were gravid and not yet delivered. As regards permanent results, 55 cases were available; in 48 there were 10 cases of relapse, all to be explained by complications, and not by defects in the method. The permanent results of ventro- and vaginofixation are better, but the former causes more pain and hernia, and the latter leads to serious complication in childbirth. Over the Alexander-Adams operation Wertheim's method has the advantage of avoiding the abdominal scar and the ever-present risk of hernia.

THE ALEXANDER OPERATION FOR RETROFLEXION.

DE MONCHY (*Nederl. Tijdschr. voor Gencsch.*, 1901, Theil i., No. 2) reports that in Leyden the Alexander operation is the method of choice in the surgical treatment of retroflexion. During the years 1896-1898 Alexander's own method was followed exactly, but latterly the inguinal canal has in some cases been opened and the ligaments exposed in Kocher's way, and the canal closed by Basini's method after the fixation of the ligaments. In the course of four years 133 patients were operated on (some for prolapse); the inguinal canal had to be slit up twenty times on account of the ligaments not being found, and in eleven instances because they gave way, nevertheless, three ligaments were never found at all; and once ventrofixation was done because neither ligament could be discovered. Since 1899 the inguinal canal has only been opened once for this reason.

The author found in sixty-five patients, whom he was able to re-examine as to later results, eight cases of hernia, one of which had existed before the operation. One double hernia was cured by the operation on one side—it recurred on the other.

LABOUR TROUBLE AFTER VAGINO-FIXATION.

RÜHL, Dillenburg (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 4), met with only three instances in 71 labours after vagino-fixation, in 47 of which the fundus uteri had been made fast to the anterior vaginal wall, in which he had to make a utero-vaginal incision; all the other women were delivered without any trouble worth mention. He admits that extensive fixation of the corpus and fundus uteri may lead to serious trouble in childbirth, but it is a remarkable fact, considering how often the operation has been done, that only nine cases of Cæsarean section for such trouble have as yet been published. He submits these nine cases to critical judgment and finds that hardly two of them can properly be set down as necessitated by the vaginal fixation, other circumstances having complicated the delivery.

According to statistics the results of labour after vaginal fixation are better than those after ventro-fixation. Rühl points out the brilliant success of vaginal fixation in the way of cure; he recommends, in the more serious troubles in labour after that proceeding, the anterior incision of the vagina and uterus as giving better results than Cæsarean section.

GENITAL PROLAPSE AND ITS OPERATIVE TREATMENT.

MANDELSTAMM, Odessa (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 3), reports seven cases of severe genital prolapse treated by Freund's method, and says that Freund's original way of fixing the uterus to the anterior or posterior vaginal wall should only be followed if the prolapsed parts have undergone serious alterations in structure and considerable increase in volume from their prolonged exposure. In such cases extensive fixation of the uterus is indispensable, but the formation of an artificial mouth to the womb is unnecessary unless the lumen of the cervix is obliterated, for there will be plenty of room along the lateral surfaces of the uterus for the free discharge of secretions. In other serious cases one may content oneself with Wertheim's modification. Most of the cases of severe prolapse affect women after the menopause, in others conception should be prevented by resection of the tubes.

PROLAPSUS UTERI; ABDOMINAL HYSTERECTOMY.

Fourteenth French Congress of Surgery, 1901, October 25.

LEGUEU, Paris, opining that in cases of serious and obstinate prolapse no peritoneal operations give sufficient relief with-

out hysteropexy or vaginal hysterectomy, said that instead of the latter operation he prefers to remove the uterus by the abdomen. He amputates the uterus above its vaginal insertion, and secures the cervical stump in the lower angle of the abdominal wound, thus supplementing the hysterectomy by fixation of the cervix; at the same time he then performs a colpo-perineorrhaphy. This method he has lately carried out three times, the results, immediate and deferred, being very satisfactory.

INVERSION OF THE UTERUS. Fourteenth French Congress of Surgery, Paris, 1901, October 25.

GROSS, Nancy, in a case of inversion of the uterus of six weeks' standing, after futile attempts to reduce it by taxis, opened the abdomen, and when the constricting ring had been dilated by two of Faraboeuf's dilators introduced into the infundibulum, pressure from the vagina succeeded in reducing the inversion. In two other cases, due to polypi, he was in one obliged to remove the polypus piecemeal, and finding that he had cut into the wall of the uterus, he performed hysterectomy; in the other case, after trying in vain to cut away the tumour he performed a total abdominal hysterectomy; both patients recovered.

COLPOCÆLIOTOMIA ANTERIOR LATERALIS, A NEW VAGINAL WAY INTO THE PERITONEAL CAVITY.

DÜHRSEN, Berlin (*Berliner klin. Wchns.*, 1901, No. 44), in this operation supplements the anterior cœliotomy he described some years ago, by the complete division of one broad ligament. He has tried it in a large number of cases of which he gives histories in this paper. After the first stages of the operation he is able to open parametric abscesses or suppurating foci in the tubes or ovaries without opening the peritoneum, and so obtain a cure while preserving the adnexa. The method gives as free access to the tubes and ovaries as total vaginal extirpation, and allows adnexal stumps infiltrated with pus to be securely kept outside the peritoneum; moreover, very good drainage of the pelvis is afforded by it, as several serious cases showed. The control of hæmorrhage can be effected even under the most difficult conditions.

Dührssen considers this operation to be indicated also in rupture of the uterus in advanced pregnancy, in order to preserve the organ and allow the laceration to be stitched up. The division of one broad ligament has no bad effects, the nourishment of the uterus does not suffer, and the resulting cicatrix gives no pain and causes no displacement.

ON THE CARE OF THE ARTERIES OF THE URETERS, ESPECIALLY
IN THE PARS PELVICA.

FEITEL, Vienna (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 2), was led to undertake this study by Wertheim's statement that in five out of fifty-seven patients operated on by him for uterine cancer, one result had been the formation of a ureteral fistula for which, in Wertheim's opinion, a branch arising from the uterine artery was probably responsible. On injected preparations Feitel found that the lower third of the ureter derived its blood from the uterine and vesical arteries, but that the middle third was always supplied by a special branch direct from the aorta, hypogastric or common iliac artery; this branch he calls the *arteria uretica*. It is exposed to injury in Wertheim's operation during the free dissection of the ureters and the search for the lymphatic gland. He deduces the following precepts for the operation:—

(1) Blunt dissection of the ureters and vessels is to be avoided as far as possible.

(2) The nutritive arteries are to be carefully exposed.

(3) The division of the peritoneum over the ureter should be done at the lateral side as far as the middle of the *pars pelvica* and continued along the medial side.

(4) The glands should, if possible, be dissected away from the nutritive arteries.

THE TREATMENT OF THE URETER ACCIDENTALLY INJURED IN
LAPAROTOMY.

WEINREB, Landau's Clinic (*Archiv. f. Gyn.*, Bd. lxx., S. 161-180), relates that in an abdominal total extirpation performed on account of a cervical carcinoma, Landau, happening to excise a portion of the ureter, and finding it impossible to do anything else, passed a ligature round the central ureteral stump, intending to remove the kidney later on. The woman recovered without any particular trouble, and no renal tumour was formed, though she was eight months under observation. In such accidents the ureter should, if possible, be implanted in the bladder, otherwise ligature is preferable to immediate nephrectomy.

DRAINAGE IN LAPAROTOMY.

BURCKHARD, Würzburg (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 2), reports on 31 laparotomies, in the Würzburg Clinic, in which drainage with gauze, or glass tubes, or both, was employed. They included 6 ovarian and 18 suppurating adnexal tumours, 2 tubal pregnancies, 2 suppurating uterine tumours, and 3 cases of peritonitis. Eight patients died from the operation, one several weeks after it. Drainage he considers indicated

when the field of operation has been polluted with large quantities of pus; when large wound-cavities have to be left; when parts of the tumour wall cannot be removed; when the bladder or intestine has been injured; and, finally, if the purulent sac is so adherent that it cannot be extirpated but must be stitched to the wound and cut open.

ABDOMINAL PAN-HYSTERECTOMY.

KRÖNIG, Leipsic (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 3), has so far modified the methods of Martin and Doyen in total extirpation, that he now, as Döderlein does in total vaginal hysterectomy, divides the posterior wall of the uterus with the knife, after the organ has been pulled well forward and downwards over the symphysis. The incision, exactly in the middle line, enters the cavity and is then extended with scissors into the posterior vaginal vault. After the division of the posterior vaginal wall the operation is either completed in Martin's way, or the anterior wall of the uterus is also divided in the middle line, the bladder detached without cutting, and pushed out of the way, and the division continued into the anterior vaginal vault. The uterus, when it has been released from the anterior vaginal wall, has an excellent pedicle, and after the uterine arteries have been exposed and secured, can be removed without difficulty. The vaginal wound is completely closed and covered with peritoneum. This method makes pan-hysterectomy much easier in cases in which it is indicated for pelvic peritonitis with chronic adnexal disease, but is only to be recommended for such myomata as are simple symmetrical homocentric tumours of the body of the womb, so that there can be no difficulty in finding the cavity.

ABDOMINAL TOTAL EXTIRPATION OF MYOMATA.

FLATAU, exhibiting some specimens to the Nuremberg Medical Society (*Münch. med. Wchns.*, 1901, S. 1902), pointed out that his method of operating for years has been to divide the ligaments from above downwards, step by step, with the aid of clamps applied in succession, while a large forceps along the opposite side of the uterus controlled the supply of blood through the vessels on that side. The portio, at first dissected from below, he had in the last two years separated from above. After the uterus and its tumours are removed the clamps are taken away one by one, ligatures are applied to bleeding vessels, and the gap in the peritoneum is closed by a continuous suture. Encouraged by exceptional success, Flatau has persevered in this method; it was demonstrated to the Nuremberg Medical Society and published in their Reports in 1897.

FIBROMATA OF THE UTERUS AND THEIR SURGICAL TREATMENT.

Fourteenth French Congress of Surgery, Paris, 1901, October 25.

PEYROT said, that after having for many years practised total abdominal hysterectomy, he had adopted subtotal abdominal hysterectomy, fixing the pedicle to the abdominal wall by the method of v. Hacker and Fritsch, the stump being attached to the lower part of the abdominal wound so as to isolate the cut surface of the collum from the peritoneal cavity. In about one sixth of his cases there had been slight infection of the wall following discharge from the stump, but in none of the 30 cases, all successful, had there been any extension of the infection to the peritoneum.

BOUILLY, Paris, between October 1899 and July 1901, had operated for fibromata in 116 cases, by the abdominal route in 94, and by the vaginal in 22; in his experience the conservative operations now advocated would have been inadequate. He had performed total abdominal hysterectomy in 4 of these cases only; the 94 abdominal operations resulted in 89 cures and 5 deaths, of which 3 were to be set down to the gravity of the lesions rather than the intervention. In his 22 cases of vaginal hysterectomy, only one case was fatal, from uræmia which already existed at the time of the operation.

ROUSSEL, Rheims, had done 39 total abdominal hysterectomies for fibromata, by Doyen's method, and all successful.

MONPROFIT, Angers, advocated the conservative method of myomectomy, by which in the last two years he had in 17 cases had 17 cures: one woman only, as far as he knew, had subsequently conceived and unfortunately had aborted at the fifth month.

CHENIEUX, Limoges, drew attention to the difficulty of diagnosis in some cases of pregnancy complicated by tumours; it was possible for fibromata reaching up to the umbilicus to pass unnoticed until the patient became pregnant; moreover, a cyst reposing in the small pelvis might by the development of the gravid uterus be pushed up into the abdomen when the strain on its adhesions or the torsion of its pedicle might lead to symptoms of peritoneal inflammation resembling those of a ruptured extra-uterine gestation.

BERTHOMIER, de Moulins, insisted on the necessity of operating upon large fibromata as soon as pregnancy was established.

SURGICAL INTERVENTION DURING PREGNANCY AND LABOUR IN CASES OF UTERINE MYOMATA.

THUMIN, writing from Landau's Clinic (*Arch. f. Gyn.*, Bd. lxiv., Heft 3), has collected the cases published since 1885,

and finds that the mortality of abdominal total extirpation for myomata complicating pregnancy has been 8.9 per cent., that of supravaginal amputation 11 per cent. Total extirpation avoids subsequent catarrhal and malignant (15 recorded cases) disease of the cervical stump, and affords better drainage. He reports 3 cases of the enucleation of myomata during pregnancy with normal labour at term, and 6 cases of total abdominal extirpation, with one death.

PINARD, Paris (*La Gynécologie*, October 15, 1901), on the ground that fibromata very rarely cause serious trouble during labour, deprecates any surgical intervention for such tumours during pregnancy, except when serious accidents force the hand of the operator. At the Baudeloque Clinic, out of 25,000 parturient women eighty-five were found to have uterine fibromata, only twelve were operated upon, and nearly all went their full term.

There is an absolute difference in the indications for surgical treatment of fibromata of an impregnated uterus, compared with those met with in cases not complicated in the same way. It is impossible to predict how the course of labour may be affected, or what treatment may then be necessary. Certainly no traumatism should be inflicted on the child, and even the use of forceps leads in these cases to its being born dead, or more or less injured and crippled. After the waters have broken, if difficulties arise it is better to save the child by Cæsarean section and then perform Porro's operation or a total hysterectomy.

The eighty-five cases in the Baudeloque Clinic were all either primiparæ above 30 years of age, or secundiparæ, whose first labour had happened from twelve to fifteen years previously. Such prolonged uterine inactivity is the real cause of fibromata, and the knowledge of this fact by women who are not mothers, or who dread the frequent occurrence of pregnancy, may some day diminish the frequency with which these tumours are met with.

P. Z. H.

CYSTIC DEGENERATION OF A MYOMATOUS UTERUS.

FLATAU, Nuremberg (*Münch. med. Wchns.*, 1901, S. 1901), successfully removed from a virgin, aged 29, a myomatous uterus twice the size of a man's head, and entirely in cystic degeneration. The resolution of the firmer tissue was so complete that the uterus was converted into a bag, the walls of which were only 2 mm. thick and which, macroscopically, could not be distinguished from the sac of a cystoma. He refers to the protest he made three years ago, in reference to an analogous case, against calling such degenerated myomata, uterine cysts. In

explanation of the resolution of the fibromyomatous tissue, Flatau suggests that the process is a kind of retrogressive metamorphosis of connective tissue cells, with a chemical change of a biological nature. Characteristic of myomata in cystic degeneration is their rapid enlargement once the process of resolution is well advanced.

FIBROMYOMA OF DOUGLAS' FOLDS.

ROSENSTEIN, Königsberg (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 4), reports a myoma, round, the size of a man's fist, attached to the right fold of Douglas by a long pedicle as thick as a lead pencil. It had developed from the muscular tissue of the ligamentum sacro-uterinum.

MYOMA AND CARCINOMA OF THE CORPUS UTERI.

FLAISCHLEN, Berlin (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 1), on examining a woman of 57, who for several months had suffered from hæmorrhages, found the size of the uterus to be as if it were about five months gravid. Under the microscope the scrapings of the curette demonstrated the presence of an adenocarcinoma. The case proved to be one of myoma, complicated by carcinoma of the body of the womb. In spite of some senile contraction of the vagina, Fleischlen operated by that way; the cervix was lacerated in the course of the operation, but he at once applied sutures of strong silk, in which he found an excellent means of traction. The uterus was removed by morcellement of the myoma, and the patient made a good recovery, being quite well in a few weeks. P. Z. H.

MYOMA AND INVERSION OF THE UTERUS.

SIMON (*Aerztliches Verein Nürnberg*, 1901, October 3), exhibited a specimen of a submucous myoma, the size of a child's head, removed from the fundus of the inverted uterus of a woman of 62. It was partially gangrenous, and attached by a short and very broad pedicle. The woman had suffered from hæmorrhage twice in the course of twelve months, and had often felt as if something wanted to come out of her vagina. Apparently for supposed prolapse a midwife had in vain tried to insert a ring, and the woman continued working till the day seen, when on lifting a heavy weight, she had profuse hæmorrhage. After the tumour had been excised, and the wound in the uterus stitched, the bleeding ceased, and by moderate compression, while the thick œdematous lips were held down by Museaux's forceps, the uterus was reinverted, and was then plugged with iodoform gauze. Complete recovery. This is another case to show that the danger of myomata is not past with the climacteric, but that even years afterwards these

tumours in not a few cases take on further growth and cause serious symptoms.

VAGINAL TOTAL EXTIRPATIONS FOR CANCER (CHROBAK'S).

KNAUER, Vienna (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. v., Heft 2), reviews the results of vaginal extirpation for cancer in Chrobak's clinic during ten years. The number of patients who sought relief on account of carcinoma was 1,374—3·4 per cent. of the whole. There were 236 radical operations, all total vaginal extirpations except 23. Intervention was undertaken whenever there was a prospect of operating in sound tissue, even when the disease had extended beyond the uterus, but 21 cases, in which on account of the advanced stage of the new growth the operation was merely palliative, must be omitted in considering the results; the subjects soon died from recurrence, and were cases for high amputation rather than palliative extirpation. Out of the 213 total extirpations 12 died after the operation, 6 others from general causes; 19 could not be followed up, leaving 176 available as regards permanence of cure; of these 34·6 per cent. were free from recurrence for five years; from 15·0 to 29 per cent. of all cases seen operable, and 7·7 per cent. were cured. Knauer finds that it is well to combine Schuchardt's method (paravaginal incision, *ante*, p. 12), with extirpation by the cauterization.

FREUND'S OPERATION.

H. W. FREUND, Strassburg (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 2), warmly advocates the abdominal operation for uterine cancer. Of fifteen cases so treated, in three the disease was limited to the uterus; two died which were beyond radical operation, the others recovered. He holds the extended operation of W. A. Freund to be indicated in commencing carcinoma limited to the uterus itself or to its immediate neighbourhood, and that in all other cases, vaginal extirpation, as a palliative measure, is the only operation to be thought of.

RADICAL OPERATION FOR UTERINE CANCER.

WERTHEIM, Vienna (*Archiv. f. Gyn.*, Bd. lxx., Ss. 1-39), in an article illustrated by six plates and sixty woodcuts, discusses the technique and subsequent treatment of his radical abdominal operation for cancer of the uterus (*v. ante*, p. 84), and reports a second series of 31 cases, making 60 in all, with concise descriptions of the condition, operations, accidental injuries and subsequent course in each case, with sketches illustrating the extension of the disease and implication of the local lymphatic glands. Whereas the operation was fatal in 12 of the first 30 cases, in the second series it was so in 5 only. The ureters

were never injured in this latter series, nevertheless, uretero-vaginal fistula resulted in 5 instances, necessitating nephrectomy in 2, and a fatal issue in 1. Vesical paresis was met with in several cases.

DECIDUOMA.

WINKLER, Breslau (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 2), in this careful critical essay endeavours to trace the cell-forms concerned in the structure of deciduoma malignum to elements of the decidua, and to locate their origin to the seat of the placenta in the gravid or puerperal uterus. His argument is essentially directed against Marchand's views, that the new growth should be called chorio-epithelioma, and that it originates from the syncytium and the cells of Langhan's layer. On the ground of two cases minutely described, Winkler gives two forms of cells which are uniformly found in the tumour and in its metastases, and refers the origin of these cells to the decidual basal layer of the placenta. He then discusses the geneses of the syncytium, Langhan's layer and the decidua, and points out that the origin assigned by Marchand and others to deciduoma, from the two former and from wandering chorionic cells, is erroneous, and that the elements of the new growth are with better reason to be referred to the decidua. The two forms of cell which he describes as entering into the formation of deciduoma are the round decidual cell and the syncytial elements. He declares that the new growth is rightly called deciduoma, and in regard to the derivation of its cells, must be included among the sarcomata.

MALIGNANT CHORIO-EPITHELIOMA OF THE VAGINA, THE UTERUS BEING HEALTHY.

SCHMIT, Vienna (*Wiener klin. Wchns.*, 1901, No. 44), gives the following case: A woman aged 41, seven weeks after a second abortion, suffered from hæmorrhage, the cause of which was found in a bluish tumour, larger than a hazel nut, in the anterior vaginal wall; the uterus and adnexa proved to be sound. The tumour turned out to be a hæmatoma which contained in its centre chorionic villi and elements of malignant chorio-epithelioma that undoubtedly were derived from the superficial layers of the villi. He supposes that benign villi strayed into the vaginal vessels, and having done so, began to degenerate there. The process of the probable development of the hæmatoma is minutely discussed. Schmit thinks it possible that, under favourable circumstances, spontaneous cure of such tumour formation might occur.

The above case seems entirely analogous to one reported by the same author in 1900 (*vide* B. G. J., vol. xvi., Summary,

p. 200). In remarking upon it at the Vienna Gynæcological and Obstetrical Society, SCHAUTA said that the idea that vaginal metastases of chorio-epithelioma were not in themselves malignant seemed, from the literature of this disease, to prevail in many quarters; indeed, not a single instance had been published of recurrence after the removal of such metastases—an astonishing circumstance, when one remembers that of all new growths, chorio-epithelioma, when it affects the uterus, is the most malignant. When these vaginal growths are examined, the centre or kernel of them is found to consist of a very little real tissue, while the peripheral portion, of much greater volume, is made up of clotted blood. These vaginal growths very soon betray themselves by their size and by breaking through the vaginal wall and causing hæmorrhage, and these early symptoms attract the attention of the patient and her physician, and on vaginal examination the tumours can hardly be overlooked. Even an unskilled surgeon is not likely to operate on them except in sound tissue, for when an incision is made one comes upon the coagula and not on the central portion. But when a tumour of the same kind affects the uterus, the surrounding tissue is too firm, and contains too little loose connective tissue to allow the formation of an hæmatoma. Thus metastases which form in the vagina are soon discovered, and are operated on too early to develop there, the property of recurrence peculiar to most malignant growths. While offering this explanation of the apparent innocence of chorio-epithelioma in the vagina, Schauta believes that essentially it is as malignant there as in the uterus. The following note shows that recurrence does take place when these growths are not dealt with early enough.

CHORIO-EPITHELIOMA OF THE VAGINA.

WEHLE (*Centrab. f. Gyn.*, 1901, 1429), reported to the Dresden Gynæcological Society two cases of syncytioma six months after labour. In the one, a VII.-para of 46, a tumour the size of a mandarin orange had developed rapidly within fourteen days in the right labium; this was extirpated by incisions that microscopically appeared to be in sound tissue, but recurrence took place in eight days, and was fatal in five weeks. In the other, a VI.-para of 39, an orange-sized tumour was removed by the sharp spoon and Paquelin from the posterior vaginal vault; the entire vagina was extremely friable, recurrence took place within ten days, so extended as to preclude further interference, and a fatal issue was impending.

"DEPORTATION" OF THE CHORIONIC VILLI.

VEIT, Leyden (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 3), has ascertained from a series of sections of a specimen of extra-

uterine pregnancy, secured before the death of the foetus, that the chorionic villi find their way into the veins which open into the blood spaces of the placenta, and may penetrate very deeply; the villi sometimes float freely, sometimes adhere to the walls of the veins, although the intervascular stroma is not invaded by their tissue. In some instances the villi or their epithelial investment (the syncytium and cells of Langhans), become detached and are left without any connection with the tissues of the foetal placenta. Veit calls this process "deportation;" it is evidently due to the current of the blood, as it is only observed in the veins. Similar phenomena are to be observed in intrauterine pregnancy.

The effect of this deportation of the chorionic villi is to enlarge the openings of the veins into the blood spaces. The ends of the veins become dilated and are eventually taken into and augment the size of the blood spaces; in proof of this traces of vascular endothelium may be found round the mouths of the veins thus in process of dilatation. This deportation also furnishes an explanation of the want of continuity in the decidua of tubal pregnancies. The submucous layer of the tubes is extremely thin, and as it alone furnishes the decidua, the chorionic villi which find their way into the venous channels below it become dissociated from everything except the muscular layer. When, by progressive dilatation, the distal ends of the veins have been merged in the blood lacunæ, there will, at all events at first, be in their walls muscular tissue only and no decidual cells. This same process, moreover, accounts for adhesions of the placenta; if the villi have penetrated too deeply or in excessive number into the interior of the veins, adhesions are certain to form.

PSEUDOMYXOMA PERITONEI.]

POLANO, Greifswald (*Monats. f. Geb. u. Gyn.*, Bd. xiii., Heft 6), relates a case of a woman of 66, from whom a cystadenoma pseudomucinosum sinistr. had been removed; gelatinous masses were found in the peritoneum, but she had good health for two years after the operation. A similar tumour subsequently developed from the right ovary, which had not been removed, and after an accident was thought to have been ruptured; the patient's condition then rapidly deteriorated, ascites collected; the right ovarian tumour, the entire surface of which was covered with gelatinous masses, was therefore removed. On the intestinal serosa there were dispersed nodules, and masses of gelatinous matter were found on the pelvic peritoneum, the under surface of the liver, and in the broad ligaments. The patient died from ileus. The relation of the tumour to the liver was of great interest. To the naked eye it was evident that the

vitreous masses of new growth extended deeply into the liver substance as a sheath accompanying the vena porta and its branches; under the microscope it was seen that, at some places, the tumour, by active proliferation of its epithelium, had broken through the capsule of connective tissue and grown deeply into the hepatic parenchyma.

The tumour was in fact a peculiar form of implantation new-growth from cystadenoma pseudomucinosum, and very closely allied to carcinoma.

PSEUDOMYXOMA OF THE PERITONEUM AND OMENTUM.

LEWITZKY, Kief (*Monats. f. Geb. u. Gyn.*, B. xiv., Heft 4), reports a case of a ruptured ovarian tumour, the pedicle of which was twisted two and a half times about its axis. There were colloid masses in the peritoneal cavity, and, at many points on the serosa, transparent white sago-like cystic new growths, some spread out, others attached by long pedicles. The entire omentum was occupied by similar cysts in its walls, or attached by long or short pedicles.

ON THE PRESENCE OF FOLLICULAR FORMATIONS IN NEW GROWTHS; A CONTRIBUTION TO THE ETIOLOGY OF OVARIAN TUMOURS: "FOLLICULOMA."

HANS SCHROEDER, Bonn (*Archiv. f. Gyn.*, Bd. lxi., Heft 2), reports, a III.-para of 36, who had had irregular hæmorrhage for four years, underwent total extirpation of uterus and adnexa for a tumour the size of a billiard ball, affecting the right ovary. The ovarian tissue in the tumour was replaced by an atypical new growth consisting of quasi-follicular alveoli filled with epithelium in which numerous structures like mature follicles were included. The new growth was derived from follicular epithelium, and Schroeder suggests it should be called "Folliculoma."

ON THE OCCURRENCE OF CANCEROUS METASTASES IN THE OVARY FROM PRIMARY CANCER OF SOME OTHER ABDOMINAL ORGAN.

KRAUS, Vienna (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 1) describes the histological processes in the formation of ovarian metastases in five cases of primary carcinoma of various abdominal viscera (stomach, cæcum, gall duct) and asserts that they are due to implantation, on the ovarian epithelium, of cancerous particles free in the peritoneal cavity. The way in which the cancerous cells penetrate inwards from the ovarian surface is not always the same. These cells are found on the surface of the ovary, either spread out, or in little accumulations in the gaps or depressions. The germinal epithelium is often intact

beneath them. The cell proliferation may grow *en masse* into the ovarian substance or may advance on ready-made paths. The superficial cancer cells also, without changing their own place, may set up proliferation of the connective tissue of the stroma beneath them, and then, in a secondary way, extend along the blood vessels and lymphatics.

The favouring conditions, to which the frequency of ovarian metastases is due, are to be found in the germinal epithelium. The tendency of these metastases to form large tumours, contrasted with that of implantations of particles of the tumour on the peritoneum to form superficial nodules, rests upon the histological and physiological peculiarities of the ovaries, and above all in their richness in lymphatic vessels.

IMPLANTATION METASTASES OF OVARIAN ADENOCYSTOMA.

PEISER, Berlin (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 2) reports as follows: A year and a half after the extirpation of an adherent glandular ovarian cystoma, which as a result of an imperfectly aseptic puncture had suppurated, an implantation metastasis was found in the abdominal wall near the seat of the puncture. The tumour, about the size of a fist, was hard; it protruded, and was covered by normal skin, but had a fistulous opening with a muco-purulent discharge. This tumour was removed, it was adherent to a loop of intestine, and in two places had broken through the wall and continued its development inside the lumen of the bowel. The specimen consisted of small communicating cysts, and under the microscope showed the structure of cystoma proliferum glandulare ovarii. Peiser's explanation of the case is that, by the puncture of the benign tumour, some of its cells were transplanted into the abdominal wound and developed a tumour there, and he concludes that such cells can live outside the peritoneal cavity, and form new growths similar in structure to the original tumour. The invasion of the tumour into the intestine was by ulceration of the intestinal wall, after the latter had by inflammation become adherent to the wall of the abdomen; the growth in the abdominal wall, as the tumour developed from the seat of the puncture, took place between the layers of the wall.

TOTAL ABLATION OF UTERUS AND ADNEXA, IN CASES OF MALIGNANT TUMOURS OF THE OVARY. Fourteenth French Congress of Surgery, 1901, October 26.

DELAUNAY, Paris, reported that a woman of 40, from whom he had removed an enormous colloid ovarian cyst, returned one year later for relief from the troubles associated with enlargement of her womb. He performed a vaginal

hysterectomy, removing the adnexa also. Histological examination proved that the uterine tissues were the seat of epitheliomatous degeneration. Influenced by this case he removed an apparently sound uterus from another patient, on whom he operated for a malignant ovarian tumour, and found that the uterus was already affected by epithelioma. He asks, therefore, whether it would not, in general, be wise to remove the uterus whenever laparotomy is performed for an ovarian cyst.

OVARIAN DYSTROPHIA : SYNDROMATA OF BASEDOW'S DISEASE AND PSEUDO-MYXEDEMA.

DALCHÉ (*Soc. méd. des Hôp.*, 1901, November 15), pointed out that among the phenomena associated with ovarian dystrophia some are met with which belong to the syndromata of Basedow's disease (tachycardia, flushes of heat, critical sweats, &c.), while others recall those of myxœdema (puffings, infiltrations of the skin, dyspeptic troubles, &c.). In consequence of this similarity he held that ovarian opotherapy was equally indicated to meet these two sets of symptoms.

DECIDUAL CHANGES IN THE OVARIES, AND THEIR RELATION TO OTHER OVARIAN LESIONS.

LINDENTHAL (*Monats. f. Geb. u. Gyn.*, 1901, June, S. 707), has made the decidual modifications in the ovary connected with pregnancy the subject of special investigation. These changes are not constant, as he met with them in only 25 cases out of 39; they are not found before the third month, at which time the cells of the connective tissue lying beneath the albuginea may be found to hypertrophy, assume a polyhedric or irregular form, and form groups around the dilated capillaries; these cells have a decidual character. By their proliferation they soon elevate the germinative epithelium and give rise to a number of inequalities separated by insets of variable depth clothed with the same epithelium. About the fifth or sixth month these inequalities form little projections resembling in section flattened mushrooms. At the end of the sixth month, signs of regression appear in the decidual cells; the protoplasm takes the eosine stain deeply, and forms little vacuoles containing a peculiar mucous fluid; the cells lose the sharpness of their outline, and the fibrillar stroma becomes more homogeneous. Glycogenic granulation was never noticed. At the ninth or tenth lunar month the decidual elements show marked hyaline degeneration, and their proliferations atrophy and sclerose. On the other hand, the epithelial excavations which separate them become more and more detached from the ovarian surface, turning into small cysts which tend to disappear. After the birth of the child the process of regression still goes on, but the knowledge

of the above facts discloses the true origin of the traces of vacuoles or cysts, and hyaline or fibrous out-crops which are still met with. Lindenthal, moreover, believes that these observations may elucidate the development of fibrous papillomata and small simple cysts of the ovary.

HÆMATOCELE RETROUTERINA FROM OVARIAN HÆMORRHAGE.

GABRIEL, Gotha (*Archiv. f. Gyn.*, Bd. lxiv., Heft 2), reports that in a patient of 24, submitted to vaginal radical operation for retrouterine hæmatocele and suppurating adnexa, no other source for the effused blood could be found but a cavity, the size of a cherry, in the left ovary, filled with recent blood-clots. Microscopic examination by Professor Beneke, showed this cavity to be a recently ruptured follicle; it contained no ovular remnants.

THE PROGNOSIS AND INDICATIONS FOR OVARIOTOMY IN PREGNANCY.

ORGLER, Landau's Clinic (*Archiv. f. Gyn.*, Bd. lxx., Ss. 126-160), reports 10 cases of ovariectomy during pregnancy, and followed in 4 instances by abortion; all the patients recovered. He has also collected 148 cases of pregnancy, complicated by ovarian tumours, available for statistics, and finds that the mortality has been 2·7 per cent., and that in 22·5 per cent. the pregnancy has been interrupted. In such cases he concurs with other authorities that ovariectomy should be performed as early as possible.

DERMOID CYST OF THE RIGHT OVARY REMOVED IN THE FOURTH MONTH OF PREGNANCY.

FLATAU, Nuremberg (*Münch. med. Wchns.*, 1901, S. 1902) reported the case of a woman three and a-half months pregnant, who was suddenly attacked with symptoms of peritonitis, with fever and a rapid pulse. The diagnosis was obscured by a hard tumour, apparently immovable, lying underneath the left costal arch. As tumours of the spleen, kidney and omentum could be excluded, the diagnosis made was adnexal tumour or pedicled myoma with torsion. On laparotomy a dermoid cyst of the right ovary, as large as the head, was removed, the pedicle of which was twisted three and a-half times round its axis; there were numerous blood vessels in the walls and inside of the sac; the tube constituted an acutely formed hæmatosalpinx. The patient recovered without interruption of the pregnancy.

THE SO-CALLED DERMOID CYSTS OR EMBRYOMATA OF THE OVARIES.

KATSURADA (*Ziegler's Beiträge z. path. Anat.*, Bd. xxx., Heft 2), describes in detail four cases of dermoid cysts of the ovary

containing tissues and organs showing that all three germinal layers had been concerned in their development (*Embryomata* of Wilms). The inclusion of fibres of the cardiac muscular tissue in the first case is noteworthy as unique. The author concurs with the views lately advanced by Bonnet as to the genesis of these tumours.

THE MALIGNITY OF SOLID EMBRYOMATA.

JUNG, Greifswald (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 5), describes two cases of embryoma; in the one the peritoneum over the bladder and left broad ligament, and the omentum, were covered with numerous nodules, and the retroperitoneal lymphatic glands were swollen. The patient was in good health eighteen months after the operation. The nodules under the microscope were found to depend on obliterated vessels. Jung attributes the growth of the vessel walls causing this obliteration to the continued pressure of the tumour, and suggests that such or similar formations which have been left *in situ*, may explain the reported cures after the removal of malignant abdominal tumours accompanied by apparent implantations.

According to the theory of foetal inclusion there is no possible qualitative difference between cystic and solid embryomata, and the solid embryomata must be looked upon as benign. Moreover, according to this theory embryomata are congenital, and can not be considered new growths in the sense of that term as applied to other tumours, but as parasites to which the terms malignant and benign should not be applied. This view is supported by irrefutable instances of protracted freedom from recurrence after the removal of solid embryomata the histological structure of which has been benign.

TUBAL CYST CONTAINING EGGS OF THE OXYURIS.

MARRO (*Arch. per le scienze med.*, T. xxx., 2) reports that in examining the pelvic organs of a woman of 34, dead from general paralysis, a simple ovarian cyst the size of an orange was found on the right side. The left tube bore two small cystic bodies; one a few centimetres above the pavilion was about twice the size of a pea and contained a clear fluid and some crystals of cholesterine; the other, situated close to the fimbriæ, was hardly as large as a pea and its walls were nearly two millimetres thick; under the microscope its thick granular yellow contents consisted of granular fatty matter and crystals of cholesterine, in the midst of which were numerous eggs of the oxyuris vermicularis, some uninjured, others more or less deformed but perfectly recognisable. The walls of this little sac were entirely of fibrous connective tissue, so that it was not formed at the expense of the tube but was a new growth. The author there-

fore considers that it owed its origin to a female oxyuris which had found its way through the uterus to the end of the tube, and there set up a reactionary process. This must have been of long standing, for neither the adult parasite nor its eggs could be found in the alimentary canal. Its well-known mobility has made the presence of the oxyuris in the uterus not very uncommon, but hitherto this parasite has not been known to penetrate more deeply into the genital organs of woman.

BILATERAL HÆMATOSALPINX FOLLOWING ADENOMYOMA
OF THE TUBES.

CHRYSOPATHES, Athens (*Zeits. f. Geb. u. Gyn.*, Bd. xliv., Heft 2), reports the case of a woman of 30 who had menstruated from the age of 13, always with severe, and sometimes even syncopal, pains extending to the thighs and sacrum. She had been therefore always compelled to rest on the day the discharge appeared, and also to abstain from food as she often had to vomit. Married at 18, she had a normal childbed at 20, and her next succeeding catamenia were at first much less painful, but soon became as bad and even worse than ever. Occasionally there was complete omission, and the next flow was then more copious. There was some leucorrhœa in the intervals. She was habitually constipated, and latterly her menstrual discharge had been black and foetid.

On the right side of her abdomen she had a hard, slightly movable tumour as large as a fist, and adherent to the uterus; this tumour was very tender on pressure. On the left side, except for a certain tenderness, the adnexa seemed to be normal. The uterus was in slight ante flexion. Laparotomy disclosed a right hæmatosalpinx as large as a fist, and one on the left the size of a walnut; there were some adhesions on the right side. The sacs in the tubes stopped abruptly a little outside the uterine horns, and at these points one could feel two small hard bodies the size of a hazel nut. The patient recovered completely in three weeks after bilateral salpingo-oophorectomy.

In the specimen the tubes were obliterated, the small tumours in their walls were formed of adenomatous and muscular tissue, and had no apparent relation to the lumina of the tubes or any inflammatory process. This fact, and the simultaneous appearance of menstruation and dysmenorrhœa, lead the author to consider these adenomyomata as of embryonic origin, and to see in them, with Recklinghausen, results of evolutionary aberration of Müller's ducts.

The case is interesting as one in which hæmatosalpinx has not been due to an ectopic gestation.

ABEL (*Soc. de Méd., Berlin*, November 13, 1901) exhibited a specimen from a bipartite uterus with hæmatometra and hæmato-

salpinx on the left side. To save the right half of the uterus he had removed the left by vaginal coeliotomy six months ago, since when the woman had menstruated regularly and without pain.

SURGERY OF PYOSALPINX.

FLATAU, Nuremberg (*Münch. med. Wchns.*, 1901, S. 1902), used formerly to form a pedicle to the purulent sac and tie it, but soon abandoned the practice in favour of the vaginal radical operation after the Doyen-Landau method. Of late years he has resumed abdominal extirpation. The two great dangers of this method used to be, first, the risk of breaking the sac while trying to form a pedicle to the tumour, as this latter is generally firmly adherent, and secondly, troublesome and annoying exudations from the stump after the operation; but these dangers Flatau thinks he avoids by his technique. A disciple of Rumpf's, he does not try to make any pedicle when the natural conditions do not give one, and avoids any ligature *en masse*. He cautiously divides the adhesions of the tubal sac *in situ* with knife scissors and forceps, without any traction on the tumour, and then amputates the latter with scissors at the insertion of the ligament, in such a way as to excise the whole of the tubal corner of the uterus in the shape of a cone. The hæmorrhage is but slight; two or three points are secured with artery forceps and tied, and the gap in the uterus and the slit in the broad ligament are closed by continuous suture so as to bring the peritoneal surfaces into contact. As in this method no unnatural strain is put upon the peritoneum, the pain after the operation is materially diminished. For intra-abdominal ligatures and stitches Flatau has for years employed cumol-catgut prepared in Krönig's way.

ON TUBAL STERILISATION.

KEHRER (*Hegar's Beiträge z. Geb. u. Gyn.*, Bd. v., Heft 2) reports four cases of tubal sterilisation performed by him; in two on account of the exhaustion (*Erschöpfung*) of the woman, in one for recurrent hernia *lin. alb.*, and in the fourth for serious psychosis. Conception did not afterwards occur. Of the different methods of operating he recommends resection of a considerable portion of the isthmus, with conical excision of the uterine insertions of the tubes. Preliminary conditions are that other means of preventing conception have been tried, that living children exist, and that husband and wife have both consented to the operation; under such circumstances sterilisation is indicated in pelvic contraction of the second and third degrees, in unfavourable constitutional conditions, in severe chronic, local and general diseases, and occasionally in laparotomies for independent reasons.

ETIOLOGY OF EXTRAUTERINE GESTATION.

VIGNARD, Nantes (*Ann. Gyn. Obst.*, 1901, Nov.), bases his diagnosis of extrauterine gestation, of which he has had 13 cases under observation, upon delay in the menstruation extending from a few days to several weeks; upon the uterine hæmorrhage, which is black in colour, without clots, often scanty, but persistent; its onset coincides with that of unilateral pains, more or less violent, and the rapid development of a tumour at or near the Fallopian tube.

Three only of his 13 patients were nulliparæ; four had had inflammatory affections of the pelvic organs; two had had difficult labours; one had suffered from dysmenorrhœa; no abnormal condition was recorded about the remaining three. In seven instances a considerable time, ten, seven, five, twelve, four, seven and twelve years respectively, had elapsed since the woman's last child was born. Vignard concludes that the tubal anomaly to which the ectopia is due has nearly always been acquired; that attenuated puerperal infection is the chief etiological factor rather than gonorrhœa.

In seven cases both tubes were examined, and lesions were found in both in two instances, on one side only in five.

P. Z. H.

INTERSTITIAL PREGNANCY.

GUÉRARD, Düsseldorf (*Centralb. f. Gyn.* 1901, No. 45), reports a case of true interstitial pregnancy affecting a woman of 38 after two abortions and four normal labours. In the third month of her seventh pregnancy she was attacked with vomiting and sudden collapse, and a diagnosis of extrauterine gestation was made. On laparotomy the ruptured gestation sac was found in the uterine substance, and was cut out and the wound stitched up. The woman recovered. The specimen, when submitted to microscopic examination, also proved that the wall of the sac was formed entirely of uterine muscular tissue, in which the ovum had buried itself completely.

SEVEN MONTHS ECTOPIC GESTATION OF A LIVING CHILD, WITH A DISCUSSION OF THE DIAGNOSIS AND TREATMENT OF ADVANCED EXTRAUTERINE PREGNANCY WITH LIVING FRUIT ON THE BASIS OF 126 COLLECTED CASES.

SITTNER, Brandenburg (*Arch. f. Gyn.*, Bd. lxiv., Heft. 3), relates that in a III.-para of 30, the diagnosis varied from the second to the seventh month, between perityphlitis, intra- or extra-uterine pregnancy and both combined. On laparotomy a living child, weighing 1,250 grammes, was found between convolutions of intestine. The placenta, developed upon the peritoneum of Douglas' pouch, occupied all the right half of

the pelvis; its removal was followed by hæmorrhage that could only be controlled by compressing the aorta. Drainage, recovery. The pregnancy had been originally a tubal one. In considering the indications for operation, it must be remembered that a large number of such children have lived to grow up. The maternal mortality in such operations has, during the last four years, been 16 per cent.

THE TREATMENT OF EXTRAUTERINE PREGNANCY.

IHM, Königsberg (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 2), reviews 39 cases seen in the Königsberg Clinic during two years and a quarter, in connection with the question whether, when the child is dead and hæmotocele has been developed, the treatment should be operative or expectant. Of these 39 cases, 19 were operated on, 20 were not; the immediate results were good by both methods, but the operation cases were all fit for work in four weeks, the others remained under treatment many months or even years. Ihm's experience is, therefore, in favour of the operative treatment.

FECUNDITY IN RELATION TO STATURE, AND SIZE OF THE PELVIS.

SOLI (*Lucina*, 1901, November) has investigated the influence of stature and the size of the pelvis upon childbearing in regard to 3,000 women delivered in the Obstetric Institute at Turin, from 1893 to 1899, the number of children, age and stature, and dimensions of the pelvis being noted in each case. He calls a pelvis abnormally large if its measurements exceed the average by one centimetre (*pelvis justo major*) or if, though the antero-posterior diameter be normal, the transverse is two centimetres longer than normal. His general conclusions are that: (1) the most fertile women have large pelvises; (2) increase in stature is generally associated with a larger pelvis; (3) plurigravidæ are oftener tall than short; (4) just as the enlarged pelvis is more often met with in plurigravidæ, so is the normal pelvis among the less prolific; (5) fecundity, stature and size of the pelvis in women are closely and proportionately connected.

F. E.

A NEW EARLY SIGN OF PREGNANCY.

SCHAEFFER, Heidelberg (*Centralb. f. Gyn.*, 1901, No. 50), adopts the view that at the commencement of pregnancy there are changes in the vaso-motor processes throughout the general system. These changes are manifested in the colchicum colour assumed by the vulva, and in a less well-known striped marking in the neighbourhood of the urethra, or on the outer side of the tuberculum vaginæ, the striping generally being transverse or oblique. Moreover, Schaeffer has found that immediately after conception the resisting power of the blood is increased.

HÆMATOMOLE (BREUS) WITH HYDATIFORM DEGENERATION OF THE CHORIONIC VILLI.

MICHOLITSCH, from Wertheim's Clinic (*Archiv. f. Gyn.*, Bd. lxxv., S. 72), describes a mole removed from a nonipara of 38, in the ninth month of pregnancy. It was as large as a man's fist, exteriorly it had the appearance of an hydatid mole. In the interior of the foetal sac, in which an embryo of 11 mm. was well preserved, there were a large number of irregular tumours, some pedicled and overlapping others, of a deep blue colour. There is a good coloured plate showing the tumour.

DIAGNOSIS OF HYDATID MOLAR PREGNANCY.

POTEN, Hanover (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 3), points out that when the contents of the uterus is not what it should be, especially when it is an hydatid mole, there are wont to be contractions of individual and generally large sections of the muscular tissue of that organ, and these contractions are by no means brief. In one instance of hydatid mole, the tumour thus caused by one part of the uterus elevating itself above the other and softer part, was larger than a fist, was at first diagnosed as a myoma. These partial contractions are not met with in normal pregnancies; they are not so well marked after the death of a foetus and are never so pronounced as with the hydatid mole, of which they are characteristic. They are probably due to the reaction of the uterine wall to local detachments of the hydatid masses and encapsuled hæmorrhages on the external surface of the degenerated ovum.

REPEATED ABORTION FROM UNKNOWN CAUSE, AND ITS TREATMENT.

KHOLMOGOROV, Moscow (*Semaine méd.*, 1901, November 27), finds that the administration of iodine, often employed as a means of preventing repeated abortion, even where there is no trace of parental syphilis, often fails to prevent the premature expulsion of the foetus, but that when it is supplemented by a systematic mercurial treatment the pregnancy will go on to term. His practice for twenty years has been to order 36 inunctions of mercurial ointment, after which he gives iodide of potash till the patient has taken 100 to 130 grammes. In cases in which abortion has already threatened (uterine contractions, hæmorrhage, taking up of the neck), and also in women who do not come under treatment until the period of their pregnancy, at which on previous occasions they have aborted, he commences by giving iodide of potash till the dangerous period has passed, and then applies the mercurial treatment, after which the iodide

is again given. Subcutaneous mercurial injections may of course be substituted for inunction.

LOMER, Hamburg, while he considers the use of iodine to be the elective prophylactic treatment in habitual abortion from unknown cause, supplements the iodine with iron in order to counteract the chronic anæmia which plays such an important part in the ætiology of habitual false labour: he accordingly gives iodide of iron, or if this is not tolerated and causes diarrhœa, iodide of potash in solution and pills of lactate of iron, and continues this treatment throughout the pregnancy. Under it he has had 21 successful cases in 22; he met with not only undetected syphilis, but two other causes of habitual abortion also, which though common enough, none the less often escape diagnosis, that is to say, the nephritis of pregnancy and endometritis.

CROCHET NEEDLE REMOVED FROM THE PERITONEAL CAVITY AFTER CAUSING ABORTION.

WORRALL, Sydney (*Aust. Med. Gaz.*, November, 1901, p. 480), reports: A multipara aged 27, when six weeks pregnant, introduced into her uterus a bone crochet needle six inches long, which slipped from her fingers. She aborted two days later, and had a normal convalescence; but one week after the abortion the needle was felt, bimanually, lying transversely in the left false pelvis. On the operation table, a week later still, it was not felt bimanually; and when the abdomen was opened the only trace of it to be seen was a red spot the size of a pea in the fundus uteri, marking the seat of perforation. The omentum was rolled up in the epigastric region, and the needle was found completely encapsuled in its lower border. Worrall finds in this and other personal observations, confirmation of Professor Watson's theory of the chemotactic function of the omentum; according to which the omentum is attracted to any pus focus or foreign inimical body which finds its way into the peritoneal cavity; and also confirmation of the generally accepted idea that peritoneal currents are from the pelvis towards the diaphragm.

CHAMBERS (*Amer. Jour. Obst.*, August, 1901; *Brit. Med. Jour.*, Ep., 1901, ii., No. 344) relates an analogous case, in which a No. 8 silk gum elastic bougie, introduced into the uterus five months previously to procure abortion, was successfully removed from the peritoneal cavity; one end was coiled up against the pubes and the other rested on the right ilium; the apex of the sharply-bent instrument had almost perforated the transverse colon, and the intestine had to be stitched in two places. The uterus showed no sign of injury. Chambers refers to the case in which Sims removed, through a vaginal incision, a silver female catheter from the right broad ligament; and to the fatal

case, recorded by Gaillard Thomas, in which a steel rib of an umbrella, introduced by the patient herself, had perforated the diaphragm and entered two inches into the lung tissue; operation was refused and she died on the twelfth day.

PREGNANCY AND ALBUMINURIA.

BERRY-HART (*Practitioner*, 1901, December, pp. 611-617), points out that in the special affection of the kidney during pregnancy, albuminuria is not the only pathological symptom present, nor is the change in the kidney the primary cause of the complications, ranging from œdema to eclampsia, coma, and serious alterations in the eyes, liver, lungs and brain, to be expected with such albuminuria. In 1843, Lever, of Guy's Hospital, showed that in eclampsia the urine was highly albuminous, and referred the condition to some transient cause connected with gestation. Sir J. Y. Simpson made the same discovery independently, but referred the albuminuria to Bright's disease. The view that eclamptic convulsions were uræmic was soon accepted, and accounts for the vigorous eliminant treatment so long practised, but this theory is now abandoned; the kidney lesion of pregnancy does not become chronic, and is not an inflammatory one, and the convulsions, commonly associated with it, are unusual in acute Bright's disease. Other theories upon the kidney affections of pregnancy have had their day and disappeared (pressure on the ureters, &c.). More recently Schmorr has shown the lesions to be cloudy swelling, fatty degeneration and necrosis, and that dilatation of the kidney, pelvis and ureters may be present. He has drawn attention to the hepatic changes described by Jürgens, Klebs and Pilliet, and in seventeen cases found hæmorrhagic and anæmic infarcts or necroses with stasis in the bile ducts and capillaries. He also found liver cells in the blood and lungs, and fat emboli from fatty liver cells, degenerative changes in the myocardium and necrotic infarcts in the pancreas. He holds that changes in the liver, set up from the placenta, lead to the retention in the system, of a substance which irritates the kidney, brain, liver, lungs, &c., in fact, of a fibrin ferment derived from placental giant cells.

Albuminuria in a pregnant woman may be (1) slight with some œdema; (2) marked with considerable anasarca; (3) marked with headache and eye symptoms, perhaps blindness; (4) preceded in rare cases by vomiting or even fits; (5) abundant with blood and granular and hyaline casts and marked suppression of urine, convulsions supervening and perhaps coma; (6) associated with a premature twin labour without symptoms during labour, perhaps with coma after delivery, previous symptoms (headache, scanty urine and mental confusion) having been neglected.

These varying conditions may be correlated if we suppose them due to a varying amount of the hypothetical irritant. In almost every case of eclampsia the urine is diminished and contains albumen, and indicative of increased vascular pressure, the serum globulin is in excess of the serum albumin (Herman). The convulsions, as a rule without any aura, tend to unilateral action. The fits may be ascribed to irritation of the cerebral cortex, the danger varies with their frequency. Hysteria tetanus and apoplexy may be excluded by the condition of the urine. The previous history of chronic Bright's disease may help in the diagnosis. In the treatment, bear in mind that the kidney lesion is not the primary one, that the liver is affected with necrotic changes, the lungs and myocardium possibly with inflammatory mischief, that we know neither the nature of the irritant, nor by what organ it is eliminated, if indeed it be eliminated by any organ.

The urine of every pregnant woman should, at all events from the sixth month, be examined for albumen and sugar, and as to the amount passed; milk diet, rest in bed, attention to the bowels, and an occasional bath will generally avert the more serious evils. If more dangerous symptoms, headache or eye troubles, supervene and the urine be still albuminous, induction of labour is distinctly indicated.

The complication of albuminuria in the pregnant woman most serious and most fatal to mother and child, is eclampsia. The heroic treatment by purgatives, pilocarpin, venesection, &c., based on the uræmic theory, should be abandoned. The condition of the heart and lungs, as well as that of the kidneys, should be ascertained, the temperature taken, the strength of the pulse estimated, and any paralytic symptom noticed to exclude cerebral hæmorrhages. Though laudanum was recommended long ago by Manning, the use of morphia, as recommended by Veit, would till quite recently have been condemned in this country; but it is more lasting in its effect than chloroform and does not require uninterrupted supervision. It is generally withheld in coma, but this seems to be without good theoretical reason. It may be given to the extent of 1 or 2 grs. in twenty-four hours, commencing with $\frac{1}{8}$ to $\frac{1}{2}$ gr. hypodermically, followed by $\frac{1}{4}$ gr. in two or three hours. A large saline clyster should, if there be no improvement, be followed in a few hours by a submammary, or in bad cases an intravenous, infusion of 2 to 3 pints of salt solution (3i. to Oi.). The hot pack has been useful, oxygen inhalation apparently not so. Chloroform inhalation and chloral per rectum are excellent, for rapidity of action chloroform is unsurpassed, it is uncertain whether much of the chloral is absorbed.

Labour should be accelerated, but except in very extreme cases Cæsarean section, abdominal or vaginal, is not necessary.

THE POINT OF BIFURCATION OF THE AORTA, AND ITS
INFLUENCE UPON ECLAMPSIA.

STRASSMANN, Berlin (*Centralb. f. Gyn.*, 1901, No. 25, p. 708), considers that the clinical observations upon which the toxic origin of eclampsia is accepted give no answer to the question why and when the retention of the toxic substance begins. The frequency of eclampsia in primiparæ, in twin pregnancies, and also in women with generally contracted pelves, the observed dilatation of the ureters in 1·5 per cent. of the cases, the prompt cessation of the attacks after the delivery, or death of the fœtus, all suggest a mechanical influence in the development of the disease.

The theory put forward by Kundrat, and adopted by Herzfeld, supposes that the higher, or lower, bifurcation of the aorta into the two iliac arteries may displace the ureters and so expose them to pressure from the foetal head. A mechanical basis for the complex symptom of eclampsia is offered by this hypothesis.

To this theory it may be objected that eclampsia is not uncommon in podalic presentations (Löhlein), and that even pluriparæ are subject to it. The aorta in normal cases divides at the level of the fourth lumbar vertebra, or of the cartilage between the fourth and the fifth. The bifurcation is higher than this once in twice, and lower once in nine times. In a large number of autopsies Strassmann has taken careful notes of the seat of division of the aorta, he has also noted its position through the abdominal walls, under narcosis or otherwise, in parturient women after the birth of the child, and during the puerperium. By commencing his palpation at the promontory and continuing it upwards along the vertebræ, he determined the seat of bifurcation with great exactitude and, in 88 cases, found the position normal in 74, lower than normal in 8 and higher than normal in 6. In these two latter groups there had been no eclampsia, not even in the preceding births. The highest position of the bifurcation was over the cartilage between the third and fourth lumbar vertebræ in a case of uterus bicornis. Among these cases there were aged primiparæ and twin pregnancies, with high and low division of the aorta, without eclampsia, on the other hand, in eclamptic women the division was found to be high in 6 cases, normal in 10 and low in 2; in 2 only the spot could not be located; the exactitude of the determination of the seat of bifurcation was twice confirmed anatomically.

In 4 eclamptic women the pelvis was generally contracted, 1 had a high bifurcation and 3 were normal; 6 non-eclamptic women with the same pelvic deformity had the bifurcation at a normal level; in two the right ureter was dilated but the division was at the normal height. From these anatomical and

clinical observations no conclusion is drawn as to the existence of any relation between eclampsia and an anomalous seat of aortic bifurcation, nevertheless there is much to be said in favour of a mechanical cause for the overloading of the maternal organism with excretory products temporarily augmented by foetal metabolism; this cause may perhaps exist in the inferior segment of the uterus, in the pelvic basin or in the course of the ureters.

F. E.

THE TREATMENT OF ECLAMPSIA.

STROGANOFF, St. Petersburg (*Centralb. f. Gyn.*, 1901, No. 48), for the last four years has been fighting for the theory that eclampsia is an acute infectious disease, lasting forty-eight hours or less, its chief danger being from the convulsions. His treatment consists in the combined administration, in a way as prophylactic as may be, of morphia (0.015) and chloral (1.5 to 3 grammes); besides this, the inhalation of oxygen during the attack, careful attention to the action of the lungs and heart, and the avoidance of any excitation. Delivery should, he thinks, be accelerated as so doing will cause no real danger to mother or child. Stroganoff's results are most brilliant. In 113 cases there were but six deaths, all to be explained by complications and not due to the eclampsia. No case ended fatally after the condition of the patient in the early stage of treatment was satisfactory. The attacks of convulsions rapidly diminished; the percentage of living children was very favourable, and the course of labour comparatively normal. Of course Stroganoff entirely rejects perforation, vaginal Cæsarean section and the other methods of forcible delivery.

PROLAPSE OF THE CORD REDUCED BY A COMPRESS.

HENNE, Schaffhausen (*Semaine Méd.*, 1901, No. 54), reports a case in which prolapse of the cord took place immediately after the rupture of the membranes, and while the os was not sufficiently dilated to allow him to terminate the labour rapidly by version. After some fruitless attempts to obtain reposition by placing the woman in the different attitudes recommended for that end, and after unsuccessful endeavours to repose the cord manually under chloroform, as the prolapse was increasing he determined to try the method commonly employed to replace loops of intestine prolapsed during laparotomy. In default of gauze he used a clean cloth wrung out of an antiseptic solution, which he had rumbled up and passed into the vagina; using this as a tampon he was able to push the umbilical cord above the foetal head, and afterwards to bring the head back into the superior strait so as to maintain the reduction. Labour was

soon ended spontaneously, the child being alive, and the compress was extruded with the placenta.

This method, easy of execution and innocuous to mother and child, while securing the complete and permanent reposition of the cord, had the advantage of allowing the delivery to be left entirely to nature.

RUPTURE OF THE UTERUS, ITS ORIGIN AND TREATMENT.

v. FRANQUÉ (*Würzburg Abhandl.*, Bd. ii., Heft 1), in discussing the question how far abnormal distension of the uterus (twins, hydramnios) may predispose to rupture, points out that the same possible predisposition may be brought about by the use of the intrauterine colpeurynter before the rupture of the membranes to accelerate tardy labour at term; considering the increasing frequency of this proceeding, this danger has hardly had enough consideration.

After a critical review of the therapeutics of complete and incomplete rupture, von Franqué, who lays great stress on prophylaxis, recommends cautious delivery by the natural way, the use of an abdominal binder, and simple drainage by tube or iodoform gauze.

SPONTANEOUS RUPTURE OF THE UTERUS; SUCCESSFUL ABDOMINAL SECTION.

WORRALL, Sydney (*Aust. Med. Gaz.*, October), reports: In a healthy IV.-para aged 39, whose previous labours had all been normal, travail at term began at 10 p.m., March 20. After about three pains the waters broke, and she felt "an agonising pain as if something had given way in her inside." About 1 a.m. next morning, a medical man extracted a living child and its placenta from her peritoneal cavity, through a rent in the right side of her uterus. When Worrall saw her in Sydney Hospital about 5 a.m., she was in great pain, faint, and blanched, with a very compressible pulse of 144. Under ether he found that the laceration extended from the external os across the right fornix nearly half way up to the fundus, and that the right broad ligament was torn across. There were large clots of blood among the coils of intestine. He opened the abdomen and amputated the uterus at the level of the inner os, stitched up the tear in the cervix, and covered the cervical stump with peritoneum, having secured all vessels except the right ovarian, which had retracted and could not be found. The peritoneum of the broad ligament was carefully sutured over a gauze drain, extending from the cæcum through the vaginal vault. The abdominal cavity was freely irrigated with saline solution, and closed without drainage. The patient gradually reacted to sub-

cutaneous saline injections and hypodermics of strychnine, and had no peritoneal symptoms after the operation. In spite of a pneumonia, due no doubt to her long journey to the hospital on a cold, wet night, which put her life in great jeopardy for a fortnight, she was discharged, very well, on May 6. On August 23 she was feeling "grand," the scar was firm, the pelvis free from tenderness or exudate, and the cervix quite movable. A similar and fatal case was recently reported by Jardine (*Brit. Med. Jour.*, February 16, 1901), who refers to two others. Rupture when spontaneous is not associated with any of the conditions that usually lead to the accident, or preceded by the tonic contraction and other symptoms which indicate that the uterus should be emptied without delay. The diagnosis of rupture is seldom difficult; the sudden cessation of contractions, the retraction of the presenting part, hæmorrhage, and collapse out of all proportion to the apparent loss of blood, are definite enough. In distinguishing between complete and incomplete rupture, we must be guided by the amount of shock and of recession of the presenting parts, and by the results of bimanual palpation. In incomplete rupture delivery through the vagina, care being taken to avoid increasing the laceration, is generally thought the proper course. When the child has escaped into the peritoneal cavity, it is best to deliver it by abdominal section, and to repair or remove the uterus. Though all the speakers in the discussion at the Obstetrical Society were in favour of packing with strips of gauze—a method probably as good as any other in incomplete rupture—abdominal section alone offers any chance of saving life in cases such as the one here reported. Much of course depends upon the conditions present and the surroundings of each individual case.

RUPTURE OF THE UTERUS.

An interesting discussion at the Vienna Obstetric and Gynaecological Society, on the rupture of the uterus through cicatrices, elicited the fact that though in Breisky's time conservative treatment prevailed, operative measures gradually became more and more adopted, so that at the Vienna Congress Fritsch declared that the general tendency was towards operative treatment since that time. The results of conservative treatment have greatly improved compared with those of operation. Though Ludwig's work states that eight out of nine cases in Chrobak's Clinic were operated on, CHROBAK (President) himself, who was presiding at the meeting, admitted in closing the discussion, that conservative measures had now prevailed. G. BRAUN related 13 cases met with, 1897-1901: 4 fatal, 3 were operated on, 10 treated by tamponade (2 complete rupture, 8

incomplete). Of those 10, three died, two from sepsis, the third admitted *in extremis*, from anæmia.

INFLUENZA IN CHILDBED AND ITS DIFFERENTIAL DIAGNOSIS FROM PUERPERAL FEVER.

STOLZ, Graz (*Monats. f. Geb. u. Gyn.*, Bd. xiii., Heft 6), has found from clinical observation that influenza in childbed generally appears in a mild form about the third or fourth day after presumable infection, but occasionally later, up to the ninth day. Its course may be marked by slight, moderate, or high fever, and each type, especially in childbed, is prone to two or more relapses. The frequency of the pulse corresponds with the height of the temperature, yet does not become extreme save in cases of serious pulmonary affection. When there are no marked local symptoms it may, especially in mild cases, be mistaken for puerperal fever, the comparative slowness of the pulse and the occurrence of a relapse may be of service in the differential diagnosis; foetid lochia, subinvolution, and tenderness on pressure are commonly met with in influenza and therefore are not important in this respect. If no culture research can be made, information as to the existence of a prevailing epidemic or pandemic, is often indispensable for correct diagnosis.

FRACTURE OF THE CLAVICLE FROM MANIPULATION TO DELIVER THE SHOULDERS.

SCHROEDER, Koenigsberg (*Semaine Méd.*, October 9, 1901), reports that in a twin pregnancy, in a primipara aged 27, twenty minutes after the first child had been extracted with forceps, the head of the second was delivered, but the shoulders were retained by the pelvic floor. While moving the head up and down, to assist the liberation of the posterior (left) shoulder, a slight crack was heard and this manipulation was at once abandoned. Delivery was effected by pressure on the fundus. The left clavicle of the child was found to be broken between its external and middle third. There was no contraction of the maternal pelvis, nor was the size of the child's shoulders excessive. Such fractures are not uncommon in breech presentations from manipulation of the trunk to free the shoulders. Obstetrical paralyses of the upper limbs have also been traced to the stretching of the nerves from twisting the head, and hæmatoma of the sterno-cleidomastoid has been referred to similar causes; it is therefore evident that expression is to be preferred to manipulation of the head.

THE MODE OF DEATH OF THE CHILD IN PREMATURE DETACHMENT OF THE PLACENTA.

SCHULTZE, Jena (*Centralb. f. Gyn.*, 1901, No. 49) (Herzfeld having recently suggested that in a case of ruptured uterus the child had bled, through the prematurely detached placenta, into the peritoneal cavity), again describes the experiment by which, years ago, he demonstrated the fact that the foetal capillaries of the placenta do not communicate in any way with the lacunæ in which the maternal blood circulates. It is therefore impossible for the foetus to lose blood through the prematurely detached placenta, nor can the child's death, or apparent death, in such cases depend on anæmia.

ENDARTERITIS OBLITERANS OF THE PLACENTAL VILLI.

v. FRANQUÈ, Würzburg (*Zeits. f. Geb. u. Gyn.*, Bd. xlv., Heft 1), brings a personal observation to prove that partial obliteration of the vessels of the chorionic villi may affect the placenta of a child born alive. A mature child of a 28-year-old 1.-para lived two days after birth; the placenta, completely adherent to the anterior uterine wall, had had to be removed piecemeal. Its examination disclosed infarct formation, fibrinous degeneration of the decidua, old hæmorrhages, and in that portion of the placental tissue not infarcted, diffuse disseminated fibrous hypertrophy of the villi with periarteritis and endarteritis.

FACIAL PARALYSIS AFTER SPONTANEOUS DELIVERY.

FRANK (*Centralb. f. Gyn.*, May 13, 1901) has met with a case of facial paralysis (left), in a child born after a difficult but unassisted labour; the mother, a multipara, aged 35, was obese, and had a pendulous belly. The brow presented in the second position. On examining the child immediately after birth, it was noticed that there was a depression in the soft parts below the right ear, exactly corresponding to the shape of the left shoulder. After ascertaining the possibility of such an occurrence, Frank suggests that in consequence of the mother's pendulous belly the infant's neck had been acutely bent on to the left shoulder, which had thus come to press on the stylo-mastoid region and the facial nerve. Common as facial paralysis is when forceps have been used, it is otherwise rare.

OBSTETRIC PARALYSES.

STOLPER, Vienna (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 1), after reviewing the reports of obstetric paralyses hitherto published, relates a case in which, after forceps delivery, the deltoid, biceps, brachialis internus, supinator longus and infra-

spinatus muscles of a male infant, weighing 5.5 kilogrammes, were all paralysed. The separation of any epiphysis or rupture of any diaphysis of the upper arm was excluded by inspection with the Röntgen rays. Stolper attributes the paralyses to the forceps, and on the basis of experiments on the bodies of mature children, comes to the conclusion that the injury was not laceration, but that the paralysis was due to dragging and stretching of the fifth and part of the sixth cervical nerves by the strong traction during the delivery of the shoulders.

THE HEART IN PREGNANCY, LABOUR, AND CHILDBED.

FELLNER, Vienna (*Monats. f. Geb. u. Gyn.*, Bd. xiv., Heft 4), reports the result of personal investigations, by the aid of Gärtner's tonometer, on blood-pressure during labour and childbed, and discusses the significance of cardiac anomalies in pregnancy and travail. During gestation the blood-pressure does not vary much beyond the normal limits. In travail it reaches its maximum at the climax of a pain and falls in the interval between the pains. It is somewhat lowered by the discharge of the waters. The highest pressure of all is to be noticed at the time of the engagement of the head. On the birth of the child the pressure immediately falls much below normal, and then falls during the contractions of the womb and rises during the pauses. In childbed it rises till the third day and then falls steadily. During suckling the pressure and the frequency of the pulse increase, immediately after it they fall, to rise again gradually. Puerperal retardation of the pulse is rare.

Cardiac anomalies are very frequently overlooked during labour and childbed. In uncompensated deficiency, a necrotic strip will always be found at the circumference of the placenta.

Tuberculosis and nephritis are most unfavourable complications of heart disease. Mitral stenosis seems to be more dangerous than other defects. It is not often that pregnancy can be proved to have a bad effect on the course of cardiac disease. Treatment in compensated affections should be regulated by the course of the patient's earlier pregnancies.

In pulmonary œdema puncturing the membranes may give relief; in threatening collapse such a proceeding is contra-indicated. Version, if necessary, should not be followed by immediate extraction. Cæsarean section is extremely dangerous; if in an earlier pregnancy the woman's life has been in peril, she should be sterilised.

THE OSMOTIC PRESSURE OF THE MATERNAL BLOOD, THE FÆTAL BLOOD AND THE AMNIOTIC FLUID.

RESINELLI (*Annali de Ost. e. Gin.*, November, 1901) has found in determining the point of congelation, that at the time

of birth there are slight but perceptible differences between the osmotic pressures of the maternal and the foetal bloods. The maternal blood and the foetal blood are therefore unable to preserve the isotonic law, although the results obtained in seventeen cases differ but little from the mean; in the mother $\Delta = -0.514$, and in the foetus $\Delta = 0.520$. With a certain prevalence the osmotic pressure of the foetal blood is in a prevailing number of cases greater than that of the maternal blood; the causes from which, in some cases, the maternal osmotic pressure is greater than the foetal pressure, are not determined.

The mean of the osmotic pressures obtained in seventeen cases, as well for the maternal as the foetal bloods, is less than that of the blood of adults, in comparison with which the maternal and foetal blood at the time of birth are both hypo-osmotic.

The osmotic pressure of amniotic liquid, measured by the determination of the point of congelation, is notably and constantly less than that of the maternal blood or foetal blood; in twenty-one cases its mean value was -0.458 .

In a twin pregnancy the point of congelation of the amniotic liquid is not always the same for each foetus.

F. E.

IDIOCY FROM PARENTAL ABUSE OF COCAINE.

MARFAN (*Rev. mens. d. mal. d. l'enfance*, 1901, Sept.) reports a case of a man who for a long time had regularly taken 3 grs. of cocain through the nose daily, for a local affection; one of his children, 6 years old, was completely idiotic, his youngest child, aged 10 months, exhibited all the signs of idiotic microcephaly, while two others, 13, and 8 years old, born before the father's abuse of cocain, were well developed in body and mind.

NOTES.

DR. LESLIE MATTHEW SWEETNAM, Professor of Clinical Surgery of the Medical Faculty at Toronto, died at Baltimore on December 11 last in his 43rd year. He was a Life Fellow of the British Gynæcological Society, all the members of which will, we feel sure, deplore the untimely close of a life already so distinguished and useful.

THE death at a comparatively early age of the distinguished Professor HERMANN LÖHLEIN, President at the recent Congress at Giessen, has been very widely regretted. Born at Coburg in 1847, he studied at Jena, and under Schroeder at Berlin. Soon after qualifying he became Assistant to Eduard Martin, and in 1875 was made *privat-docent*; in 1889 he succeeded Hofmeier in the Chair of Obstetrics and Gynæcology at Giessen; in 1897 he declined an invitation to Königsberg, and the following year he became Rector of the University. His thesis on "The Contracted Pelvis," in 1870, was crowned by the Faculty; that in 1875, "On the Action of the Heart in Pregnancy and Child-bed," attracted much attention. Latterly he has been known to all the medical world as the Editor of the *Gynaekologischen Tagesfragen*, indeed, hardly a year passed without the appearance of some important work from his clinic.

PROFESSOR GIUSEPPE CHIARLEONE died on November 19 last, at the early age of 56. He studied at Parma, where he acted as Assistant to Professor Chiara, to whom he was afterwards Assistant at Milan. In 1881 he became Professor and Director of the Medical School and Chief Surgeon to the Vercelli Hospital; in 1889 he was removed to Catania, and in 1894 he succeeded to the Chair of Obstetrics and Gynæcology in the University of Palermo.

PROFESSOR HUGO PERNICE, formerly Director of the Obstetrical Clinic, died at Greifswald on December 31 last, aged 72.

DR. E. ESSEN-MOLLER has been made an Extraordinary Professor and Director of the Gynæcological Clinic in the University of Lund.

PROFESSOR B. S. SCHULTZE has been made an Honorary M.D. of the University of Greifswald.

DR. K. UNTERBERGER, Director of the Gynæcological Department of the Hospital at Koenigsberg, has been nominated Professor of Obstetrics.

DR. QUEIREL, Professor of Obstetrics, has been appointed Director of the Medical School at Marseilles.

EXTRAORDINARY PROFESSOR ERMANNO PINZANZI, Director of the Obstetrical and Gynæcological Clinic at the University of Pisa, has been made an Ordinary Professor.

INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS.—The Fourth Session of this Congress will be held in Italy from September 15 to 21, 1902. His Excellency GUIDO BACELLI is to be Honorary President. The Committee include Professor E. PASQUALI, General President; Professor O. MORISANI, President of the Section of Obstetrics; Professor L. MANGIAGALLI, President of the Section of Gynæcology; Professor E. PESTALOZZA, General Secretary; Dr. F. LA TORRE, Treasurer, and Professors CALDERINI, GUZZONI, NEGRI and TRUZZI. The Doctors CARUSO, MICHELI, REGNOLI and ROSSI DORIA are the Secretaries. The subjects for discussion are: (1) The Indications for the Induction of Labour; (2) Hysterectomy in the Treatment of Puerperal Infection; (3) Genital Tuberculosis; (4) The Surgical Cure of Cancer of the Uterus. The official languages of the Congress are to be Italian Spanish, French, German and English.

THE addition of even diagrammatic illustrations to the notes of cases greatly enhances the value of such records, and we are glad to mention that india-rubber stamps of the right and left sides of the pelvis, and also views from above, below, and the front, well executed after Schultze and Dohrn-Rapin, are to be had from Hermann Haertel, Breslau, who will send an illustrated catalogue on application. They might very well be provided for use in the records of all hospitals for the diseases of women; similar diagrams are commonly employed for other maladies.

DR. AUDEBERT recommends salophen for the treatment of after-pains, as abolishing pain without interfering with the contractions of the uterus. He prescribes a dose of 15 grains, which he repeats in two hours if necessary. As a rule, the pains disappear in half an hour after the first dose; they occasionally reappear on the next day, but another dose drives them away completely and permanently.—*Merck's Archives*.

VERATRINE IN PRURITUS.—In the obstinate localised pruritus of women at the menopause Dr. Lutaud recommends an ointment of $2\frac{1}{2}$ grains of veratrine to an ounce of lard, to be applied morning and night. If the pruritus be general, he orders: $\frac{1}{10}$ grain of veratrine in pill form once a day, gradually increased to six times a day, half an hour before or three hours after meals.—*Merck's Archives*.

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- 1889 BAGOT, WILLIAM S., M.D.Dub., L.R.C.S.I., *Gynaecologist to St. Luke's Hospital, Denver, Color., Ex-Senior Assistant Physician Rotunda Hospital, Dublin, 532, Seventeenth Street, near Wellow, Denver, Color., U.S.A.*
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- L. 1885 BAKER, WILLIAM HENRY, M.D., *Professor of Gynaecology Harvard University, Surgeon to the Free Hospital for Women, Boston, 22, Mount Vernon Street, Boston, Mass., U.S.A.*
- 1898 †BAKEWELL, ROBERT TURLE, M.B.Lond., 27, Welbeck Street, Cavendish Square, w.
- 1887 BALLERAY, G. H., M.D., 115, Broadway, Paterson, Jersey, U.S.A.
- L. F.F. †BANTOCK, G. GRANVILLE, M.D., F.R.C.S.Ed., *Consulting Surgeon to the Samaritan Free Hospital, 12, Granville Place, Portman Square, w.*
V.-P. 1884-6 & 1887-9. Pres. 1887. Treas. 1888-90. C. 1891-3. Libr. 1894-6.
- L. F.F. BARBOUR, A. H. FREELAND, M.A., B.Sc., M.D., *Assistant Obstetric Physician Royal Infirmary, Edinburgh, 4, Charlotte Square, Edinburgh.*
C. 1884-8 & 1901-2. V.-P. 1893-5.
- F.F. †BARNES, ROBERT, M.D., F.R.C.P., *Consulting Obstetric Physician to St. George's Hospital, Consulting Physician to the Royal Maternity Charity, &c., &c., Bernersmede, Eastbourne.*
Hon. Pres. 1884-1902.
- F.F. †BARNES, R. S. FAN COURT, M.D., M.R.C.P., F.R.S.E., *Physician to the British Lying-in Hospital, and the Royal Maternity Charity, 36, Broadwater Down, Tunbridge Wells.*
Editor 1884-1891. Hon. Sec. 1884-6. V.-P. 1887-9 & 1892-4.
- 1899 †BARRETT, JAMES FRANCIS, M.B., B.Ch., R.U.I., *Edburga House, The Bank, Highgate.*
- L. 1886 BARRINGTON, FOURNESS, M.B., F.R.C.S.Eng. 213, Macquaire Street, Sydney, Australia.

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- 1898 †BARTER, WILLIAM, M.D., M.Ch., R.U.I., 47, Greencroft Gardens, West Hampstead, N.W.
- 1899 †BARTON, CHARLES NATHANIEL, M.R.C.S., L.R.C.P., 17, Redcliffe Gardens, S.W.
- L. 1885 BATCHELOR, FERDINAND CAMPION, M.D.Dur., M.R.C.S.Eng., L.S.A., L.R.C.P.Ed., *Lecturer on Midwifery and Gynecology University of Otago*, George Street, Dunedin, New Zealand.
V.-P. 1893-5.
- L. F.F. †BAYFIELD, HORACE OSBORNE, L.R.C.P.Ed., L.F.P.S.Glas., Tracadie, Merton Road, Wimbledon, S.W.
- 1892 BECKWITH, FRANK E., M.D., 139, Church Street, New Haven, Conn., U.S.A.
- F.F. BELL, ROBERT, M.D., F.F.P.S.Glas., *Physician to the Glasgow Institute for Diseases of Women and Children*, 29, Lynedock Street, Glasgow.
C. 1885-7. V.-P. 1891-3.
- 1898 †BELLIS, EDWARD, L.R.C.P. & S.Irel., 81, Holland Park Avenue, Notting Hill, W.
- F.F. †BENNETT, CHARLES HENRY, M.D., M.R.C.S., L.S.A., College House, Hammersmith, W. Auditor. C. 1892-4. V.-P. 1895-7.
- F.F. †BERTOLACCI, JOHN HEWETSON, L.S.A., Junior Conservative Club.
- 1886 †BIGGS, MOSES G., M.R.C.S., 101, Northcote Road, New Wandsworth, S.W.
- 1898 †BISHOP, EDWARD STANMORE, F.R.C.S.Eng., L.R.C.P.Edin., *Surgeon to the Ancoats Hospital*, 316, Oxford Road, Manchester.
C. 1901-2.
- 1899 BLAIR, JOHN, M.D., Bidston House, Wigan.
- L. F.F. †BLAKE, EDWARD, M.D., Berkeley Mansions, 64, Seymour Street, Hyde Park, W.
- 1898 †BLAKISTON, AUBREY, L.R.C.P. & S.Ed., 5, Grosvenor Street, Grosvenor Square, W.
- 1901 BODDEART, EUGENE, M.D., Gand Coupure, 46, Ghent, Belgium.
- L. 1890 BOLDT, H. J., M.D., 54, West 51st Street, New York, U.S.A.
- 1891 †BOURKE, W. H., M.D., 8, Moreton Gardens, S.W. C. 1900-2.
- 1887 †BOURNS, N. WHITELAW, M.D.Bru., M.R.C.S.Eng., L.R.C.P.Ed., 78, Redcliffe Gardens, South Kensington, S.W. C. 1899.
- 1887 †BOWIE, ALEX., M.D., C.M., 4, Hertford Street, Park Lane, W.
- 1894 BOYD, ALEXANDER BROOKE, M.A., M.B., B.Ch.Oxon., Richmond, Nelson, N.Z.
- L. 1885 BOYD, JAMES, P., M.D., *Professor of Obstetrics and Gynecology Albany Medical College*, 152, Washington Avenue, Albany, New York, U.S.A.
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- 1893 †BRIDGER, ADOLPHUS E., M.D., F.R.C.P.E., *Physician St. Pancras and Northern Dispensary*, 18, Portland Place, W.
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- 1896 *BROWNE, RALPH HENRY, M.D., M.R.C.S., L.R.C.P.Lond.
- L. 1889 BROWNLEE, MILNE, M.D., Woodstock, Ontario, Canada.
- L. 1885 BUDIN, PIERRE, M.D., *Professeur agrégé à la faculté de Médecine de Paris, Accoucheur de la Charité, 4, Avenue Hoche, Paris.*
- 1887 †BURFORD, GEORGE HENRY, M.B., C.M.Aber., 35, Queen Anne Street, w.
- 1898 †BURRE, PATRICK JOSEPH, M.D., M.Ch., M.A.O., R.U.I., 23, Long Lane, Borough, s.e.
- 1887 BURY, EDWARD CHARLES, M.D.St. And., M.R.C.S., L.S.A., 5, York Row, Wisbech, Cambs.
- L. F.F. †BUXTON, DUDLEY WILMOT, M.D., B.S., M.R.C.P.Lond., *Anaesthetist to University College Hospital, 82, Mortimer Street, Cavendish Square, w.* C. 1895-7.
- 1885 †BYERS, JOHN WILLIAM, M.A., M.D., M.Ch. (Q.U.I.), M.R.C.S.E., L.M.K. and Q.C.P.I., *Professor of Midwifery and Diseases of Women and Children, Queen's College, Belfast, and Physician for Diseases of Women to the Royal Hospital, Belfast, Lower Crescent, Belfast.* Hon. Loc. Sec. C. 1893-5. V.-P. 1896-8.
- 1894 BYFORD, HENRY T., M.D., 100, State Street, Chicago, Ill., U.S.A.
- 1895 *CAFFERATA, ADOLPHUS M., M.D.
- 1887 CALDWELL, W. SPENCER, M.D., Freeport, Ill., U.S.A.
- F.F. †CAMBRIDGE, THOMAS ARTHUR, M.R.C.S.Eng., L.S.A., Stanley Lodge, Waltersville Road, Upper Hornsey Rise, n. C. 1887-9. V.-P. 1890-2.
- 1887 CAMERON, J. C., M.D., *Professor of Midwifery McGill University, 941, Dorchester Street, Montreal.*
- 1895 CAMERON, MURDOCH, M.D., *Regius Professor of Midwifery and Diseases of Women in the University of Glasgow, 7, Newton Terrace, Glasgow.* Hon. Loc. Sec. C. 1899-1901. V.-P. 1902.
- 1898 *CAMERON, WILLIAM JOHN, M.B.Lond.
- 1897 CAMPBELL, COLIN GRAHAM, M.B., C.M.Edin., Armagh Street, Christchurch, New Zealand.
- 1894 CAMPBELL, JOHN, M.A., M.D., M.Ch., M.A.O., R.U.I., F.R.C.S. Eng., *Senior Physician Samaritan Hospital for Women, Belfast, Crescent House, University Road, Belfast.* C. 1899-1901. V.-P. 1902.
- F.F. CAMPBELL, WILLIAM FREDERICK, L.R.C.P.Ed., L.F.P.S.G., L.S.A.Lond., 67, Bentham Road, South Hackney.
- 1892 CANNADAY, C. G., M.D., Roanake, Virginia, U.S.A.
- L. 1886 CARSTENS, J. HENRY, M.D., Detroit, Michigan, U.S.A.
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- 1901 CARTON, PAUL, M.D., B.Ch., B.A.O.Dub., *Assistant Master Rotunda Hospital, Dublin, 35, Rutland Square, Dublin.*

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- F.F. †CASE, WILLIAM, M.R.C.S., L.S.A., Denmark House, Caistor-on-Sea, Norfolk.
- 1895 †CHAMBERS, EBER, M.D.Aber., M.R.C.S., *District Medical Officer City of London Lying-in-Hospital*, 1, Wilmington Square, W.C. C. 1902.
- L. 1885 CHAMBERS, P. FLEWELLEN, M.D., 26, West Forty-seventh Street, New York, U.S.A.
- 1898 †CHEETHAM, SYDNEY WILLIAMS, M.R.C.S., L.R.C.P.Lond., 8, Norwich Road, Forest Gate, E.
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- 1898 CHESTNUT, HENRY, L.R.C.P. and S.Ed., Tralee, Co. Kerry, Ireland.
- 1898 CHESTNUTT, JOHN, B.A., R.U.I., L.R.C.S., L.R.C.P., Derwent House, Howden, East Yorkshire.
- 1898 *CLARKE, JOSEPH JOHN, L.R.C.P.I., L.S.A.
- 1898 CLARKE, RICHARD ASHMORE, L.R.C.S. & P.I., *Surgeon to Teddington Cottage Hospital*, Goudhurst, Teddington.
- 1895 †CLARK, TOM, L.R.C.P. and S.Edin., 1, Westburn Street, Eaton Square, S.W.
- L. 1887 †CLARK, THOMAS KILNER, F.R.C.S.Eng., M.D., M.A.Cantab., *Surgeon Huddersfield Infirmary*, 66, John William Street, Huddersfield. C. 1895-7.
- 1896 †CLAYTON, CHARLES HOLLINGSWORTH, M.R.C.S., L.R.C.P., 10, College Terrace, Belsize Park, N.W.
- 1886 CLEGHORN, GEORGE, M.D.Dur., Blenheim, Marlborough, New Zealand. C. 1893-5.
- L. F.F. CLENDINNEN, FREDERICK JOHN, L.R.C.P.Lond., L.R.C.P. & S. Edin., 465, Malvern Road, Hawksburn, Melbourne, Australia. Hon. Loc. Sec.
- 1898 †COKER, OWEN COLE, L.R.C.P., L.S.A., 155, Uxbridge Road, W.
- 1899 COLE, J. M. COATES, M.R.C.S., L.R.C.P., Curaçao, Dutch West Indies.
- F.F. †COLEMAN, CHARLES ALFRED, M.D.Edin., Hill View, Streatham Common, S.W.
- 1893 †COLENSO, ROBERT J., M.A., M.D.Oxon., M.R.C.S., 91, Cromwell Road, S.W. C. 1902.
- 1890 †COLLINS, E. TENISON, M.R.C.S., L.S.A., *Gynaecologist to Cardiff Infirmary*, 12, Windsor Place, Cardiff. Hon. Loc. Sec. C. 1896-8.
- 1885 CONDON, JAMES HUNT, M.D.St.And., M.R.C.S., L.S.A., L.M.Dublin, *Brigade Surgeon Indian Army Medical Department*, Cawnpore, India.

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- L. F.F. CORDES, AUGUSTE E., M.D.Paris, M.R.C.P.Lond., *Privat-Dozent of Midwifery, ex-chirurgien adjoint à la Maternité*, 12, Rue Bellot, Geneva. V.-P. 1897-9.
- 1900 CORRIGAN, WILLIAM JENKINSON, F.R.C.S.I., L.R.C.P.I., L.M., Cloughmore, Splott Avenue, Cardiff.
- 1900 †COWEN, RICHARD JOHN, L.R.C.P.I., L.M., L.R.C.S.I., L.M., 25, Clarges Street, Piccadilly, w.
- 1898 CRABBE, JOHN SANDISON, L.R.C.P. & S.Ed., Dundallen, Gravelly Hill, near Birmingham.
- 1895 CRAIG, WILLIAM BEDFORD, M.D., *Visiting Gynaecologist to St. Luke's and St. Joseph's Hospital, Denver, and Professor of Gynaecology in the University of Denver Medical Department*, 122, East Sixteenth Avenue, Denver, Colorado, U.S.A.
- 1900 CRAMPTON, THOMAS HOBBS, L.R.C.P.I., L.R.C.S.I., L.M., 30, Myddleton Square, E.C.
- F.F. CRANNY, JOHN JOSEPH, M.D.Dub., A.B., F.R.C.S.I., *Surgeon to the Jervis Street Hospital, late Examiner in Midwifery, Royal College of Surgeons Ireland*, 17, Merrion Square, Dublin.
- 1886 CRESSWELL, PEARSON ROBERT, F.R.C.S.Ed., C.B., *Surgeon Merthyr General Hospital, &c.*, Dowlais, Merthyr Tydvil.
- 1888 *CRICHTON, GEORGE, A.M. St. And., M.D.Edin., L.R.C.S.Edin.
- 1888 †CRISP, ERNEST HENRY, B.A.Camb., L.R.C.P., M.R.C.S., 43, Fenchurch Street, E.C.
- 1891 *CROMIE, JOHN, L.R.C.P. & S.Edin.
- 1891 CROOM, JOHN HALLIDAY, M.D., F.R.C.P.Edin., F.R.C.S.Edin., F.R.S.E., *President of the Royal College of Surgeons; Consulting Gynaecologist to the Royal Infirmary; Consulting Physician to the Royal Maternity Hospital; and Lecturer on Midwifery and the Diseases of Women, at the School of the Royal Colleges, Edinburgh*; 25, Charlotte Square, Edinburgh.
C. 1884-6. V.-P. 1887-9. President, 1902.
- L. 1887 CROUZAT, E., M.D., *Professor de Clinique d'Accouchements à la Faculté de Médecine de Toulouse*, Toulouse, France.
- 1895 CUFFE, ROBERT, M.R.C.S., F.S.A., Woodhall Spa, Lincoln.
- 1901 CULLEN, THOMAS, M.D., *Gynaecologist to the Johns Hopkins Hospital*, Baltimore, U.S.A.
- 1898 CUMMING, GEORGE WILLIAM HAMILTON, M.D.Dur., M.R.C.S., L.R.C.P., Annandale, Torquay, S. Devon.
- 1901 †DANIEL, P. L., 5, Devonshire Street, Portland Place, w.
- 1896 *DARLEY-HARTLEY, WILLIAM, L.R.C.P.Ed., M.R.C.S.Eng.
- 1895 †DAUBER, JOHN H., M.A., M.B., B.Ch.Oxon., *Assistant Physician Hospital for Women, Soho*, 29, Charles Street, Berkeley Square, w.
C. 1900-1.
- F.F. †DAVIES, ELLIS THOMAS, M.D., *Hon. Surgeon Samaritan Free Hospital for Women, Liverpool*, 97, Shaw Street, Liverpool. C. 1901-2.
- 1900 DAVIES, JOHN STANLEY, M.B., C.M.Glas., 262, Queen's Road, New Cross.

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- 1895 †DE JERSEY, WALTER BROCK, B.A., M.B., B.C.Cantab., Netherton, Waterden Road, Guildford, Surrey.
- 1897 *DELAMOTTE, PETER WILLIAM, M.R.C.P.Edin., M.R.C.S.E.
- L 1887 DEWES, FREDERICK JOSEPH, L.R.C.P.Lond., M.R.C.S.E., *Surgeon-Captain Madras Army*, care of Messrs. Binney & Co., Madras, India.
- L. F.F.†DINGLE, WILLIAM ALFRED, M.D. St. And., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., *Surgeon Royal Maternity Charity*, 46, Finsbury Square, E.C. C. 1889-91. V.-P. 1892-4.
- 1887 †DINGLEY, WILLIAM, M.R.C.S., L.S.A., 277, Camden Road, N. C. 1895-7.
- L. 1888 DIRNER, GUSTAV, M.D., 9, Kossuth Utoxa, Buda Pesth, Hungary.
- F.F. †DIXON, WILLIAM EDWARD, L.R.C.P.Ed., F.R.C.S.Ed., M.R.C.S., Oulton Lodge, Oulton Broad, Lowestoft.
- 1891 DODD, T. A., M.R.C.S., L.R.C.P.Ed., *Visiting Surgeon Newcastle-on-Tyne Workhouse Hospital*, 4, Eldon Square, Newcastle-on-Tyne.
- 1898 DODSWORTH, FREDERICK CHARLES, L.R.C.P., M.R.C.S., Ingleden House, Gunnersbury.
- F.F. †DOLAN, THOMAS M., M.D.Dur., F.R.C.S.Edin., Horton House, Halifax, Yorkshire. C. 1886-8, 1892-4 & 1902. V.-P. 1889-91.
- 1898 †DON, WILLIAM WALTON, M.D.Glas., 466, Edgware Road, W.
- 1895 †DONALD, ARCHIBALD, M.A., M.D.Edin., M.R.C.P.Lond., *Obstetric Physician Royal Infirmary, Manchester*, Platt Abbey, Rusholme, Manchester. C. 1897-9.
- 1897 DONALD, HUGH COLLIGHAN, M.B.Glas. and C.M., 5, Gauze Street, Paisley.
- 1898 DONOVAN, WILLIAM, M.D.Dur., L.R.C.P. & S.Ed., "Glandore," Erdington, Birmingham.
- L. 1889 DOUGLAS, RICHARD, M.D., Nashville, Tennessee, U.S.A.
- 1896 †DOWNES, JOSEPH LOCKHART, M.B., C.M.Glas., 271, Romford Road, E.
- 1898 DOYEN, E., M.D.Paris, 6, Rue Picini, Avenue du Bois de Boulogne, Paris.
- 1898 †DRAKE, A. THOMSON, M.B., R.U.I., 160, Lewisham High Road, S.E.
- L. F.F. DRAPER, JAMES WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., Almondbury, Huddersfield.
- 1891 DRUMMOND, JAMES, M.D., 12, Ogle Terrace, South Shields.
- L. 1885 DUDLEY, EMILIUS CLARK, A.B., M.D., *Professor of Gynaecology Chicago Medical College*, 1617, Indiana Avenue, Chicago, U.S.A.
- F.F. *DUNDAS, MORDAUNT GEORGE, M.R.C.S., L.S.A.
- 1896 †DUTCH, HENRY, M.D.Brux., L.R.C.P.Lond., 8, Berkeley Street, Berkeley Square, W.
- 1891 †EASTES, THOMAS, M.D., F.R.C.S., 18, Manor Road, Folkestone. C. 1897-1900.
- 1890 ECCLES, F. R., M.D., *Professor of Gynaecology at the Western University*, Ellwood Place, London, Ontario, Canada.

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- 1894 †EDGE, FREDERICK, M.D., B.S., B.Sc.Lond., M.R.C.P.Lond.,
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and to the Birmingham and Midland Hospital for Women*, 54,
Darlington Street, Wolverhampton. C. 1897-9.
- F.F. †ELDER, GEORGE, M.D., *Surgeon to the Samaritan Hospital for Women,
Nottingham*, 17, Regent Street, Nottingham.
C. 1890-2. V.-P. 1897-9.
- 1898 †ELLIOTT, FRANK PERCY, M.B., C.M.Aber., 113, Grove Road,
Walthamstow, N.E.
- 1898 EMERSON, THOS. G., M.D., M.Ch., R.U.I., Wantage, Berks.
- 1894 EMMET, BACHE MCE., M.D., 18, East Thirtieth Street, New York,
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- 1892 ENGLEMAN, FREDK., M.D., Kreuznach, Germany.
- L. 1885 ENGLEMAN, GEORGE J., M.D., 336, Beacon Street, Boston, U.S.A.
- 1890 ENGLISH, T. JOHNSTON, M.D.Brux., 128, Fulham Road, S. Kensington,
S.W.
- L. 1892 ENGSTRÖM, PROFESSOR, OTTO, M.D., Helsingfors, Finland.
- 1891 FEHLING, PROFESSOR, M.D., M.D., Ruprechtsauer, Allee, 4
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- L. 1886 FENGER, CHRISTIAN, M.D., 269, La Salle Avenue, Chicago, Illinois,
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- 1894 *FENTON, FREDERICK ENOS, F.R.C.S.E., M.R.C.P.Edin.
- 1896 †FENWICK, BEDFORD, M.D.Dur., M.R.C.P.Lond., *Physician to the
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1888-9. Editor 1892-4.
- 1893 *FERGUSON, GEO. GUNNIS, M.B., C.M.Glas.
- 1895 FERGUSON, JAMES HAIG, M.D., F.R.C.P.E., *Lecturer on Midwifery
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- 1898 FOGERTY, WILLIAM A., M.D., M.Ch., M.A.O., *Surgeon Limerick
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- 1891 FORDE, ERNEST S., L.R.C.P. & S.Ed., Dalry, Galloway.
- 1898 FRANZ, R. GRANT, M.D.Marburg and Berlin, Schwalbach, Germany.
- 1885 FRASER, GRÆME BISDEE, M.R.C.S., L.S.A., Belvidere, Beech Road,
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- 1885 FULLER, LEEDHAM, M.R.C.S. Eng., L.S.A. Lond., Oatlands, Streatham Hill, s.w.
- F.F. †GAGE-BROWN, CHARLES HERBERT, M.D., C.M.Ed., 85, Cadogan Place, s.w. C. 1898-9.
- 1895 †GALLOWAY, ARTHUR W., L.R.C.P., M.R.C.S., 79, New North Road, s.
- F.F. †GARDINER, BRUCE HERBERT JOHN, M.D., L.R.C.P. Edin., M.R.C.S., 48, Barry Road, East Dulwich, s.e.
- F.F. GARDNER, WILLIAM, M.D., *Professor of Gynecology in McGill University*, 109, Union Avenue, Montreal, Canada. V.-P. 1887-9.
- 1895 †GEORGE, WM. HOTTEN, M.R.C.S. Eng., L.R.C.P. Ed., 9, Osnaburgh Street, n.w.
- 1895 GIFFARD, H. E., M.R.C.S., Denham House, Egham, Surrey.
- L. 1885 GILES, PETER BROOME, M.R.C.S., L.R.C.P., Holne Chase, Bletchley, Bucks.
- 1900 GLENN, JOHN HUGH ROBERT, M.D. Dub., F.R.C.P.I., *Gynecologist to Mercer's Hospital*, 24, Lower Bagot Street, Dublin.
- 1897 GODFREY, FRANK W. A., M.B. Edin. & C.M., *Hon. Surgeon Scarborough Hospital and Dispensary*, 5, Montpellier Terrace, Scarborough.
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- F.F. GOLDSMITH, GEORGE POCOCK, M.D., 3, Harpur Place, Bedford. C. 1891-3.
- L. 1886 GORDON, SAMUEL C., M.D., 157, High Street, Portland, Maine, U.S.A.
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- 1891 GREEN, W. O., M.D., 709, 2nd Street, near Chestnut, Louisville, Kentucky, U.S.A.
- 1900 GREER, WILLIAM JONES, F.R.C.S.I., L.R.C.P.I., L.M., D.P.H., 2, Chepstow Road, Newport, Monmouthshire.
- F.F. †GRIFFITH, G. DE GORREQUER, L.R.C.P., M.R.C.S., *late Senior Physician to Hospital for Women and Children, Pimlico*, 34, St. George's Square, s.w., and New Indian Club, Whitehall Gardens, s.w.
- L. 1885 †GRIMSDALE, THOMAS BABINGTON, B.A., M.B. Cantab., M.R.C.S., *Gynecological Surgeon Liverpool Royal Infirmary*, 29, Rodney Street, Liverpool. Hon. Loc. Sec. C. 1894-6.
- 1898 †GUNTUN, GEORGE ANDREW, L.R.C.P.I., L.S.A., 3, Sloane Court, s.w.

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- 1885 HACKNEY, JOHN, M.D., M.R.C.S., L.S.A., The Knoll, Hythe, Kent.
- 1895 HALL, ERNEST AMOS, M.D., C.M.Ont., L.R.C.P.Ed., 92, Government Street, Victoria, British Columbia.
- L. 1885 HALL, RUFUS B., M.D., 37, Crown Street, Walnut Hills, Cincinnati, U.S.A.
- 1898 HANSON, ARTHUR STEPHEN, M.R.C.S., L.R.C.P., Titchfield, Fareham, Hants.
- 1897 †HARLEY, HENRY, M.D., R.U.I., 27, Victoria Road, Battersea Park, S.W.
- F.F. HARRIES, THOMAS DAVIES, M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon Aberystwith Infirmary and Cardiganshire General Hospital*, Grosvenor House, Aberystwith.
- 1898 †HARTT, CHARLES HENRY, L.R.C.P.I., L.R.C.S.I., L.M., 14, Croom's Hill, Greenwich, S.E.
- F.F. HASLAM, WM. DOIGE, M.D.Bru., M.R.C.S.Eng., L.S.A., Walpole House, Wallington, Surrey.
- F.F. †HAULTAIN, FRANCIS WM. NICOL, M.D., F.R.C.P.Ed., *Physician for Diseases of Women, Royal Dispensary, Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine*, 17, Rutland Street, Edinburgh. Hon. Loc. Sec. C. 1896-8. V.-P. 1902.
- 1889 HAWKES, A. E., M.D.Bru., L.R.C.P. & S.Ed., 22, Abercromby Square, Liverpool.
- 1901 HAYNES, CAPTAIN E. J. A., F.R.C.S., 390, Hay Street, Perth, Western Australia.
- L. 1886 HEADLEY, W. BALLS, M.A., M.D., F.R.C.P., 4, Collins Street, Melbourne, Australia. C. 1896-8.
- 1887 *HEALD, BENJAMIN GREY, L.R.C.P.Ed., L.F.P.S.G.
- F.F. †HEBERT, PAUL ZOTIQUE, M.D., C.M.McGill, L.R.C.P.Lond., 16A, Old Cavendish Street, Cavendish Square, W. C. 1896-8.
- L. 1885 HEIBERG, WILHELM, M.D., *Surgeon to the County Hospital of Copenhagen*, Frederiksberg, Copenhagen.
- 1898 HELME, THOMAS ARTHUR, M.D.Edin., M.R.C.P.Lond., M.R.C.S.Eng., 337, Oxford Road, Manchester.
- L. 1887 HETHERINGTON, GEO. ALBERT, M.D., St. John, N.B., Canada.
- 1891 HILL, J. STONELEY, M.B. & C.M.Edin., 33, Great Charlotte Street, Blackfriars Road, S.E.
- F.F. †HILLS, AUGUSTUS PHILLIPS, M.R.C.S.Eng., Carlton House, 1, Prince of Wales Road, Battersea Park, S.W.
- F.F. †HINE, ALFRED LEONARD, L.R.C.P.Lond., M.R.C.S., L.S.A., Eppingdale, Leytonstone Road, E. C. 1891-2.
- 1898 †HINGSTON, WILLIAM F., M.D., B.A., T.C.D., 215, Evelyn Street, Deptford, S.E.
- L. 1887 HOAG, JUNIUS C., M.D., 4669, Lake Avenue, Chicago.
- F.F. †HODGSON, ROBERT HUGH, M.D.Dur., M.R.C.S.Eng., 204, Rye Lane, Peckham, S.E. C. 1894-7 & 1901-2. V.-P. 1898-1900.
- 1895 †HOLLAND, C. E., M.B., C.M.Ed., "Airdrie," The Avenue, Kew Gardens, Surrey.

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- F.F. †HOLLAND, EDMUND, M.D., M.R.C.P., F.R.C.S., *Physician to the Hospital for Women, Soho, 1, Titchfield Terrace, North Gate, Regent's Park, N.W.* C. 1893-5.
- L. 1885 HOOPER, JOHN WILLIAM DUNBAR, L.R.C.P. & S. Edin., *Surgeon to the Women's Hospital, Melbourne, 70, Collins Street, East Melbourne.*
- 1899 HORNE, ANDREW JOHN, F.R.C.P.I., 94, Merrion Square, Dublin.
- 1898 HOWARD, ARTHUR WALTERS, M.R.C.S., L.R.C.P., New Buckenham, Attleborough, Norfolk.
- 1901 †HUGHES, GEORGE OSBORNE, M.D., &c. 16, Bedford Place, Russell Square, W.C.
- 1887 HUTCHISON, GEORGE WRIGHT, M.D. Aber., M.R.C.P. Edin., Chipping Norton, Oxon.
- F.F. †ISDELL, FITZGERALD, M.A., M.D. Dub., 189, Shaftesbury Avenue, W.C.
- F.F. †JAMES, W. CULVER, M.D., 15, Marloes Road, Kensington, W. C. 1884-6.
- 1894 JARDINE, JAMES, M.B. Edin., C.M., 3, Lichfield Gardens, Richmond, Surrey. C. 1902.
- 1888 JELLETT, HENRY, M.D. Dub., M.R.C.P.I., 61, Lower Mount Street, Dublin. Hon. Loc. Sec. C. 1902.
- 1887 †JESSETT, FREDERICK BOWREMAN, F.R.C.S. Eng., *Surgeon to the Cancer Hospital, Brompton, 23, Brook Street, W.* C. 1891-2, 1894-7 & 1901-2. V.-P. 1898-1900. Pres. 1893.
- L. 1883 JEWETT, CHARLES, M.D., 330, Clinton Avenue, Brooklyn, U.S.A.
- 1897 *JOHNSTON, G. J. WALDRON, M.D., R.U.I.
- 1886 JOHNSTON, JOHN, M.R.C.S. Eng., 2, Rocky Hill Terrace, Maidstone.
- L. 1886 JOHNSTONE, ARTHUR W., M.D., Madisonville Road, Cincinnati, Ohio.
- 1891 JOHNSTONE, GEORGE W., L.R.C.P., *Government Medical Officer, 3, Battery Road, Singapore.*
- 1887 JONES, C. N. DIXON, M.D., 249, East 86th Street, New York, U.S.A.
- 1899 JONES, EVAN JAMES TREVOR, M.R.C.S., L.R.C.P., Ty-mawr, Aberdare, S. Wales.
- 1895 †JONES, JOHN, L.R.C.P., M.R.C.S., Claremont, Newlands Park, Sydenham, S.E.
- 1893 †JORDAN, JOHN FURNEAUX, M.B., R.U.I., F.R.C.S. Eng., *Surgeon Women's Hospital, Birmingham, 114, Edmund Street, Birmingham.* C. 1899-1901.
- 1895 †KEITH, GEORGE E., M.B., C.M. Ed., 42, Charles Street, Berkeley Square, W. Hon. Sec. 1897-9. C. 1900-1.
- 1894 †KEITH, SKENE, M.B., C.M. Edin., F.R.C.S. E., 42, Charles Street, Berkeley Square, W. C. 1897-9. V.-P. 1900-2.
- L. 1889 KELLOGG, J. H., M.D., Battle Creek, Michigan, U.S.A.

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- 1868 KELLY, HOWARD A., M.D., Univ. of Pennsylvania, *Professor of Gynæcology and Obstetrics in Johns Hopkins University*, 1406, Eutaw Place, Baltimore, Pa., U.S.A.
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- 1900 KIDD, FREDERICK WILLIAM, M.D.Dub., *Master of Coombe Hospital, Professor of Midwifery and Gynæcology*, R.C.S.I., 17, Lower Fitzwilliam Street, Dublin. C. 1902.
- L. 1886 KING, ALBERT F. A., M.D., 1315, Mass. Avenue, N.W., Washington, D.C., U.S.A.
- 1901 KING, Dr. E. J., 93, Niagara Street, Buffalo, U.S.A.
- 1898 KINKEAD, RICHARD JONN, M.D., L.R.C.S.I., *Prof. of Obstetrics, Queen's College, Galway*, Forster House, Galway.
- 1893 KIRKLEY, C.A., M.D., 1105, Jefferson Street, Toledo, Ohio, U.S.A.
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- 1898 LANDAU, L., M.D., *Professor of Gynæcology of the University of Berlin*, Berlin. V.-P., 1900-2.
- L. 1886†LAWRIE, JAS. MCPHERSON, M.D., *Physician to the Weymouth Sanatorium*, Greenhill, Weymouth. C. 1894-6. V.-P., 1899-1901.
- 1899 LEA, ARNOLD WILLIAM WARRINGTON, M.D., B.S.Lond., F.R.C.S.Eng., *Assistant to the Professor of Obstetrics, Owens College; Assistant Surgeon to the Clinical Hospital for Women and Children*, Manchester, 274, Oxford Road, Manchester.
- L. F.F. LEBLOND, ALBERT, M.D., *Médecin de Saint-Lazare*, 53, Rue d'Hauteville, Paris.
- 1889 LEIGH, W. W., L.R.C.P.Edin., M.R.C.S.Eng., L.S.A., Glyn Bargoed Treharris, R.S.O., South Wales.
- L. F.F. LE PAGE, JOHN FISHER, M.D., L.R.C.P.Edin., The Poplars, Cheadle, Cheshire.
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- F.F. *LESLIE, WILLIAM MURRAY, M.D.Edin., C.M., F.R.S.C.E.
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- 1891 LLOYD, H. J., L.R.C.P.Edin., L.F.P.S.Glas., Tyncoed, Barmouth, North Wales.
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- 1893 LLOYDE, JOHN HY., L.R.C.P. & S.Edin., 6, Harpur Place, Bedford.
- F.F. †LOW, RICHARD MARSDEN PILKINGTON, M.B., C.M.Edin., L.R.C.P. & S.Edin., L.M., 70, Philbeach Gardens, S.W. C. 1896-8.
- 1901 LOWENTHAL, LOUIS L., M.R.C.S., &c., 3135, South Park Avenue, Chicago, U.S.A.
- 1894 LUTAUD, AUGUSTE, M.D.Paris, *Redacteur en Chef du Journal de Médecine de Paris; Médecin Adj. de l'Hôpital St. Lazare*, 47, Boulevard Haussmann, Paris.

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- 1899 LYLE, ROBERT PATTON RANKEN, B.A., M.D., B.Ch.Dub., *Lecturer on Midwifery and Diseases of Women and Children Durham University College of Medicine*, 20, Saville Row, Newcastle-on-Tyne. Hon. Loc. Sec.
- F.F. MACAN, ARTHUR VERNON, B.A., M.B.Dub, M.Ch., M.A.O., F.R.C.P.I., *King's Professor of Midwifery Trinity College: Obstetric Physician Sir P. Dun's Hospital; Ex-Master of the Rotunda Hospital, Dublin*, 53, Merrion Square, Dublin. V.-P. 1887-8. Pres. 1889. C. 1890-2.
- L. 1885 †MACAN, JAMESON JOHN, M.A., M.D.Cantab., M.R.C.S., Crossgates, Cheam, Surrey. C. 1895-7. V.-P. 1898-1900. Editor, 1899-1902.
- 1899 MCARDLE, JOHN STEPHEN, F.R.C.S.I., *Surgeon to St. Vincent's Hospital*, 7, Upper Merrion Street, Dublin.
- 1898 MACARTNEY, RICHARD, L.R.C.P. & S.Edin., Lisanore, Cinderford, Gloucestershire.
- 1890 MACCORMAC, JOHN SIDES DAVIES, L.R.C.P. & S.Ed., L.R.C.P. & S.Glas., Iveagh House, Belgrave, Leicester.
- 1895 MACDONALD, JAMES, M.D.Ed., Bloxwich, Wallsall, Staffs.
- 1898 †MACDONNELL, ALEXANDER, L.R.C.S.Ed. & L.S.A., Manor Lodge, Stamford Hill, N.
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- 1897 MACGREGOR, PETER, F.R.C.S.Ed., Rashcliffe, Huddersfield.
- L. 1889 MACKAY, W. A., M.D.Edin., F.R.C.S.Edin., Huelva, Spain.
- L. 1888 †MACKINTOSH, G. D., L.R.C.P.I., L.M.Ed., Fairford House, Lower Kennington Lane, S.E.
- 1898 †McMANUS, LEONARD STRONG, M.D., Westwood House, St. John's Hill, S.W.
- 1892 MACMURTRY, L. S., M.D., 1912, Sixth Street, Louisville, Kentucky, U.S.A.
- F.F. †MACNAUGHTON-JONES, H. M.D., M.Ch., Q.U.I., M.A.O., F.R.C.S.I. and Edin., *late Examiner in Midwifery Royal University, Ireland, and Professor of Midwifery Queen's College, Cork*, 131, Harley Street, W. C. 1890-2 & 1900-2. V.-P. 1895-7. P. 1898-9.
- 1897 †MACNAUGHTON-JONES, H. M., M.B., B.Ch., R.U.I., L.R.C.P., M.R.C.S., 12, Sandwell Mansions, West End Lane, N.W. Editor, 1900-2.
- 1894 *MADDIN, JOHN WALSEY, Jun., M.D.
- 1888 MANTON, WALTER PORTER, M.D., 32, Adams Avenue, W., Detroit, Mich., U.S.A.
- 1887 MARLEY, HENRY FREDERICK, M.R.C.S.E., L.R.C.P., L.S.A., L.M., The Nook, Padstow, Cornwall.

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- 1895 *MARTIN, CHARLES, M.B., C.M.Ed.
- 1891 †MARTIN, CHRISTOPHER, M.B.Edin., C.M., F.R.C.S.Eng., *Surgeon Birmingham and Midland Hospital for Women*, Cleveland House, George Road, Edgbaston, Birmingham.
Hon. Loc. Sec. C. 1897-9.
- 1896 MATTICE, RICHARD ISA, M.D.McGill, L.R.C.P.Lond., Omaha, Nebraska, U.S.A.
- 1896 MAYBURY, LYSANDER, M.D., R.U.I., M.Ch., M.R.C.S.Eng., 9, Hampshire Terrace, Southsea.
- 1891 MEARNS, WILLIAM, M.A., M.D., *Physician Children's Hospital, Gateshead-on-Tyne*, 22, Bewick Road, Gateshead-on-Tyne.
- 1891 MEEK, H., M.D., 331, Queen's Avenue, London, Ontario, Canada.
- 1887 MENDES DE LEON, M.A., M.D., Sarphati Straat, 1H, Amsterdam.
C. 1892.
- L. 1886 MERRIMAN, HENRY P., M.D., 2239, Michigan Avenue, Chicago, U.S.A.
- 1896 METCALFE, JAMES, M.D.Brux., L.R.C.P. & S.Edin., *Surgeon to St. Catherine's Home for Cancer*, Bradford, 8, Heaton Grove, Bradford, Yorks.
- 1891 MICHIE, H., M.B.Aber., C.M., *Surgeon to the Samaritan Hospital*, 27, Regent Street, Nottingham.
C. 1894-6.
- 1895 †MILLER, FREDK. R., M.D.Brux., L.R.C.P.Lond., 19, Harley Street, w.
- L. 1886 *MILLER, DE LASKIE, M.D., *Professor of Obstetrics Rush Medical College*.
- 1896 MINCHIN, P. DUNDAS, L.R.C.P. & S.Edin., Oldcroft, Godalming, Surrey.
- 1892 MOLSON, JOHN CAVENDISH, L.R.C.P., 10, Washington Terrace, West Brighton.
- 1896 MORGAN, THOMAS HOWARD, M.D., F.R.C.S.Edin., Gympie, Queensland, Australia.
- 1887 MORISON, ALBERT EDWARD, M.B., C.M.Ed., F.R.C.S.Edin., Wellington Road, West Hartlepool.
- 1891 MORISON, J. RUTHERFORD, M.B., F.R.C.S., *Surgeon Newcastle-on-Tyne Infirmary*, 14, Saville Row, Newcastle-on-Tyne.
C. 1894-6.
- 1894 MORLAND, CHARLES HENRY DUNCAN, M.B., B.S.Dur., F.R.C.S., Swatow, China.
- 1898 MORRIS, RICHARD JOHN, L.S.A., M.D.Heidelberg, Stockwell Villa, 252A, Clapham Road, s.w.
- F.F. †MORTON, THOMAS, M.D.Lond., M.R.C.S., L.S.A., *Ex-President of the Harveian Society of London*, 15, Greville Road, Kilburn, n.w.
C. 1889-90 and 1899-1901.
- 1898 †MOSSE, HERBERT RYDING, M.D., M.R.C.S.Eng., Hobart House, Clapham Common, s.w.
- F.F. †MOULLIN, J. A. MANSELL, M.A., M.B.Oxon., M.R.C.P., *Physician to the Hospital for Women, Soho, Physician for Diseases of Women to the West London Hospital*, 80, Porchester Terrace, Hyde Park, w.
C. 1884-6. Hon. Sec. 1887-8. V.-P. 1889-91. Libr. 1892.
Treas. 1893-1900. Pres. 1901.

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- 1900 MURPHY, J. KEOGH, M.A., M.D., B.C.Camb., 35, Princes Square, Bayswater.
- 1896 MURRAY, CHAS. F. K., M.D., R.U.I., F.R.C.S., Kenilworth, Cape Town, S. Africa.
- 1885 MURRAY, ROBERT MILNE, M.A. St. And., M.B. Edin., F.R.C.P. Edin. F.R.S.E., *Assistant Physician Maternity Hospital; Lecturer on Midwifery and Gynecology Edinburgh School; Physician for Diseases of Women to the Western Dispensary; Assistant Gynecologist to the Edinburgh Royal Infirmary*, 11, Chester Street, Edinburgh. C. 1886-8. V.-P. 1899-1901.
- 1891 MURRAY, WILLIAM, M.D., F.R.C.P., *Consulting Physician Newcastle-on-Tyne Hospital for Sick Children*, 9, Ellison Place, Newcastle-on-Tyne.
- F.F. MUTCH, F. ROBERTSON, M.D., C.M. Aber., "Strathgairn," Goldsmith Street, Nottingham.
- 1891 *NAPIER, A. D. LEITH, M.D., M.R.C.P. Lond., F.R.S. Edin., *late Physician Royal Maternity Charity of London, and Examiner in Midwifery and Gynecology, Apothecaries' Hall*. C. 1892. Hon. Sec. 1893-4. Editor 1894-6. V.-P. 1895-7.
- 1889 †NAUMANN, J. C. FRANCIS, M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., *Physician Italian Hospital*, 125, Gower Street, W.C.
- 1894 †NEATBY, EDWIN A., M.D. Brux., L.R.C.P. Lond., 19, Upper Wimpole Street, W.
- 1891 NEDWILL, COURTNEY, M.D., R.U.I., M.R.C.S., Christchurch, Canterbury, New Zealand.
- L. 1886 NELSON, DANIEL THURBER, M.D., 2400, Indian Avenue, Chicago, U.S.A.
- L. F.F. †NETHERCLIFT, WILLIAM HENRY, F.R.C.S. Ed., 8, St. George's Place, Canterbury.
- L. F.F. NEUGEBAUER, FRANZ, M.D., *Directeur de l'Hôpital Evangelique*. Leszno, 33, Warsaw, Russia (Poland). V.-P. 1887-9.
- 1898 †NEVILLE, THOS., M.D., R.U.I., 123, Sloane Street, S.W.
- 1896 NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B. Camb., M.R.C.S., *Physician Accoucheur Bristol General Hospital*, Chandos Villa, Queen's Road, Clifton. C. 1898-1900.
- 1898 NOBLE, CHARLES P., M.D. Maryland, 1509, Locust Street, Philadelphia, Pa., U.S.A.
- 1896 †O'BRYEN, JAMES WHEELER, M.D. Vermont, L.R.C.P. and S. Ed., Springfield Lodge, Sydenham, S.E.
- L. 1889 †O'CALLAGHAN, ROBERT, L.R.C.P., F.R.C.S.I., *late Surgeon Carlown Infirmary and Surgeon Chelsea Hospital for Women*, 137, Harley Street, W. C. 1891-3.

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- 1898 O'CONNOR, WILLIAM MOYLE, M.A., M.D.Dub., Lyndhurst, Cargate, Aldershot.
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- 1898 O'HAGAN, PATRICK FRANCIS, L.R.C.P. & S.E., Tower House, London Road, Croydon.
- 1895 *OLIVER, FRANKLIN HEWITT, L.R.C.P.Lond., L.S.A.
- 1894 †OLIVER, JAMES, M.D., M.R.C.P.Lond., F.R.S.Edin., *Physician to the Hospital for Women Soho Square, W.*, 18, Gordon Square, W.C. C. 1896-98. V.-P., 1900-2.
- 1891 OLIVER, THOS., M.A., M.D., F.R.C.P., *Professor of Physiology University of Durham, Physician Newcastle-on-Tyne Infirmary*, 7, Ellison Place, Newcastle-on-Tyne. C. 1892-4.
- 1898 OPPENHEIMER, HEINRICH, M.D.Heidelberg, M.R.C.P.Lond., 63, Finsbury Pavement, E.C.
- L. 1889 OSTROM, H. J., M.D., 42, West 48th Street, New York, U.S.A.
- F.F. †PADMAN, JOHN, M.R.C.S.Eng., 22, Bloomsbury Square, W.C.
- L. 1888 PARKINSON, J. TAYLOR, M.D., Brook View, Crystal Brook, South Australia.
- 1898 †PARSONS, JOHN INGLIS, M.D., M.R.C.P., *Physician to the Chelsea Hospital for Women*, 3, Queen Street, Mayfair, W. C. 1901-2.
- 1898 PATTISON, EDWARD SETON, M.R.C.S., L.R.C.P.Ed., Granville House, Fulham Park, S.W.
- 1898 PEARSON, CHARLES YELVERTON, M.D., M.Ch., 1, Sidney Place, Cork. Hon. Loc. Sec.
- 1899 PECK, FRANCIS SAMUEL, M.R.C.S., L.R.C.P., *Lieut.-Col. Indian Medical Service, Professor of Midwifery and Obstetric Physician at Calcutta Medical College*, 6, Harrington Street, Calcutta.
- 1891 PHILIPSON, Professor Sir G. H., M.A., M.D.Cantab., D.C.L., F.R.C.P., *Professor of Medicine University of Durham, Senior Physician Newcastle-on-Tyne Infirmary*, 7, Eldon Square, Newcastle-on-Tyne.
- L. F.F. PINARD, ADOLPHE M.D., *Professeur à la Faculté Accoucheur de Lariboisière*, 11, Rocqueline, Paris. V.-P. 1900-1.
- 1895 PLOWMAN, T. A. BARRETT, M.R.C.S., L.R.C.P., Greenway, North Curry, Taunton.
- L. 1885 POLK, WILLIAM M., M.D., *Ex-President New York Obstetrical Society, &c. &c.*, 7, East Thirty-Sixth Street, New York, U.S.A.
- 1886 †POPE, HARRY CAMPBELL, M.D.Lond., F.R.C.S., 6, Ashchurch Grove, Goldhawk Road, Shepherd's Bush, W. C. 1890-2.
- 1891 †POULTER, ARTHUR REGINALD, M.R.C.S., L.R.C.P., 4, Gordon Mansions, Gower Street, W.C.
- 1898 PRINGLE, GEORGE LORAIN KERR, M.D., C.M.Ed., King's Square, Bridgewater, Somerset.

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Merrion Square, Dublin. C. 1884-6. V.-P. 1899-1901.
- 1895 †PUTSEY, WILLIAM H., M.D.Dur., M.R.C.S., *Fleet-Surgeon (retired)*
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- 1887 RAE, GEORGE A., L.R.C.P. & S.Ed., 1, Outram Terrace, Stoke,
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- 1894 †RAMSAY, FRANK WINSON, M.D., B.S.Dur., F.R.C.S.Ed., Jesmond
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- L. F.F. RASCH, ADOLPHUS A. F., M.D., M.R.C.P., *late Physician for Diseases*
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strasse, 5, Halle à Saale, Germany. C. 1891-3. V.-P. 1895-6.
- F.F. RAWLINGS, JOHN ADAMS, M.R.C.P.Edin., M.R.C.S.Eng., *Physician*
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- 1898 †REDFERN, JOHN J., M.D., M.A.O., *Surgeon to the Croydon General*
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- L. 1887 REED, CHARLES A. L., M.D., *Professor of Gynaecology and Abdominal*
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- 1901 REID, DUNCAN JAMES, M.D., Shanghai, China.
- F.F. REID, W. LOUDON, M.D.Glas., F.F.P.S.Glas., *Professor of Midwifery*
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- 1898 RICE, GEORGE, M.Dur., 46, Friar Gate, Derby.
- F.F. *RICHARDSON, JOHN HUMPHREY HOWARD, M.R.C.S., L.S.A.
- L. 1888 RICKETTS, E. S., M.D., 93, East Fourth Street, Cincinnati, Ohio,
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- L. F.F. ROBERTS, D. LLOYD, M.D., F.R.C.P., F.R.S.Edin., *Physician to St.*
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and the Diseases of Women in Owens College, 11, St. John Street,
Manchester. C. 1884. V.-P. 1886-8.
- F.F. †ROBERTS, THOMAS, L.S.A.Lond., 2, Selborne Gardens, York Road,
Ilford, Essex.
- L. F.F.†ROBERTSON, A. MILNE, M.D.Edin., Gonville House, Alton Road,
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- 1901 †ROBINSON, EDWARD TAIT, M.D., 21, Gloucester Place, Portman
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- 1898 †ROBINSON, MALACHI J., M.D., M.Ch., R.U.I., 257, Essex Road,
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- 1888 †ROBSON, ARTHUR W. MAYO, F.R.C.S.Eng., L.R.C.P.Lond., *Professor of Surgery Yorkshire College, Surgeon Leeds General Infirmary, 7, Park Square, Leeds.*
Hon. Loc. Sec. C. 1893-5 & 1898-1900. V.-P. 1896. Pres. 1897.
- 1897 ROBSON, HERBERT J., M.R.C.S. & L.R.C.P.Lond., 3, Hillary Place, Woodhouse Lane, Leeds.
- L. 1885 ROSEBRUGH, JOHN WELLINGTON, M.D., Hamilton, Ont., Canada.
- L. 1888 ROSS, JAMES F. W., M.D., C.M., L.R.C.P.Lond., *Professor of Gynaecology and Abdominal Surgery Ontario Medical College for Women, Gynaecologist to Toronto General Hospital, St. Michael's Hospital and St. John's Hospital for Women, 481, Sherbourne Street, Toronto, Canada.*
Hon. Loc. Sec.
- 1898 †ROTHEROE, WILLIAM BURSLEM, L.R.C.P. & S.Ed., 47, Gloucester Place, W.
- 1901 ROUNTREE, WILLIAM AUGUSTINE, M.D., M.Ch., R.U.I., 21, Malden Crescent, N.W.
- F.F. †ROUTH, CHARLES HENRY FELIX, M.D., M.R.C.P., *Consulting Physician to the Samaritan Free Hospital, 52, Montague Square, W.*
V.-P. 1884-6 & 1896-8. C. 1888-9, 1891-4 & 1899-1901. Pres. 1890.
Hon. Fellow 1901.
- L. F.F. RUSSELL, LOGAN D. H., M.D., M.R.C.S., Glenfern, Halfway Tree, Jamaica.
- 1897 †RYALL, CHARLES, F.R.C.S., *Surgeon to the Cancer Hospital; Surgeon to the Gordon Hospital; Surgeon to Out-patients, London Lock Hospital, 51, Queen Anne Street, W.*
Hon. Sec. 1900-2.
- 1901 †ST. AUBYN-FARRER, CLAUDE, L.R.C.P., L.R.C.S.Edin., 7, Westbourne Park Road, Porchester Square, W.
- 1895 *SAMBON, LUIGI, M.D.
- 1895 *SAUNDERS, FREDERICK HERBERT, M.D., C.M.Aber.
- F.F. †SAVAGE, THOMAS, M.D., M.R.C.P., F.R.C.S.Eng., *Professor of Gynaecology Mason's College, Surgeon Birmingham and Midland Hospital, 133, Edmund Street, Birmingham.*
C. 1884-6 & 1895-7. V.-P. 1889-91. Pres. 1894.
- 1892 †SCHACHT, F. F., M.D., B.A.Cantab., *late Physician to Out-Patients, Chelsea Hospital for Women, 153, Cromwell Road, S.W.*
Hon. Sec. 1893-6. Editor 1896-9. V.-P. 1897-9. C. 1900-2.
- 1891 SCOTT, EDWARD IRWIN, M.D. St. And., 69, Church Road, West Brighton.
- 1887 †SHAW, JOHN, M.D.Lond., M.R.C.P.Lond., *Obstetric Physician and Gynaecologist North-West London Hospital, 32, New Cavendish Street, Cavendish Square, W.*
C. 1888-90. V.-P. 1901-2. Hon. Sec. 1895-7.
- 1901 SHEARER, ALFRED, M.B., Ch.B., c/o Dr. Purchas, Newtown, N. Wales.
- 1901 SHEPHERD, THOMAS WILLIAM, L.R.C.S.Edin., Castle Hill House, Launceston, Cornwall.

Elected

- 1895 †SIMEON, E. ARCHIBALD, L.R.C.P. & S.Ed., 350, Hoe Street, Walthamstow, N.E.
- 1889 †SIMPSON, ALEXANDER RUSSELL, M.D., F.R.C.P. Edin., F.F.P.S. Glas., F.R.S.E., *Professor of Midwifery and Diseases of Women Edinburgh University, Physician for Diseases of Women Royal Infirmary and Maternity Hospital*, 52, Queen Street, Edinburgh.
V.-P. 1890-1. Pres. 1892. C. 1893-5.
- 1898 *SIMPSON, JOHN POLLOCK, M.D.
- 1899 SINCLAIR, WILLIAM JAPP, M.D. Aber., M.R.C.P., *Professor of Obstetrics and Gynaecology Victoria University, and Physician to the Southern Hospital, Manchester*, 250, Oxford Road, Manchester.
C. 1900. V.-P. 1901-2.
- F.F. †SLIMON, WILLIAM, M.D. Glas., F.F.P.S. Glas., 26, New Cavendish Street, W.
C. 1899-1900 & 1902.
- 1886 SLOAN, SAMUEL, M.D., F.F.P.S. Glas., *Consulting Physician to the Glasgow Maternity Hospital*, 5, Somerset Place, Sauchiehall Street West, Glasgow.
C. 1889-91.
- L. 1887 SMART, DAVID, M.B., B.Sc. Edin., 74, Hartington Road, Liverpool.
- 1889 SMITH, ALFRED J., M.B., R.U.I., M.Ch., M.A.O., *Professor of Midwifery and Diseases of Women, Catholic University, Dublin, Gynaecologist St. Vincent's Hospital*, 30, Merrion Square, Dublin.
C. 1896-8. V.-P. 1902.
- 1898 SMITH, ARTHUR LAPHORN, B.A., M.D., M.R.C.S., *Professor of Clinical Gynaecology Bishops University, Montreal, Surgeon-in-Chief Samaritan Free Hospital for Women, Gynaecologist to the Montreal Dispensary, Surgeon to the Western General Hospital*, 7248, Bishop Street, Montreal, Canada.
- L. F.F. †SMITH, E. T. AYDON, L.S.A., Devon Lodge, 2, Alexandra Road, St. John's Wood, N.W.
C. 1898-9.
- L. F.F. †SMITH, HEYWOOD, M.A., M.D., M.R.C.P., 18, Harley Street, W.
Hon. Sec. 1884-5. C. 1889-91 & 1898-1900. V.-P. 1892-4 & 1901-2.
- 1891 SMITH, JAMES WILKIE, M.D., Balgonie House, Ryton-on-Tyne, Durham.
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C. 1884-6 & 1898-1900. Hon. Sec. 1889-90. V.-P. 1891-93.
- F.F. †SMYLY, W. JOSIAH, M.D., T.C.D., F.R.C.P.I., F.R.C.S.I., *late Master of the Rotunda Hospital, Examiner in Midwifery, R.C.P.I., Dublin*, 58, Merrion Square, Dublin.
C. 1888-90 and 1901-2. V.-P. 1892-4. Pres. 1900.
- 1895 †SMYTH, ALEXANDER CARSON, M.B., C.M. Ed., Lochiel, 16, Craven Park, Willesden, N.W.
- F.F. SMYTH, BRICE, B.A., M.B., M.Ch., T.C.D., *Consulting Physician Hospital for Sick Children, Physician Belfast Lying-in Hospital*, 20, University Square, Belfast.
C. 1887-9. V.-P. 1889-91.
- 1893 †SMYTH, JOHN WALKER, L.R.C.P. & S. Edin., 13, Colebrook Row, City Road, N.
- 1896 †SNOW, HERBERT, M.D. Lond. &c., M.R.C.S., *Senior Acting-Surgeon Cancer Hospital, Brompton*, 6, Gloucester Place, Portman Square.
W.
C. 1902.

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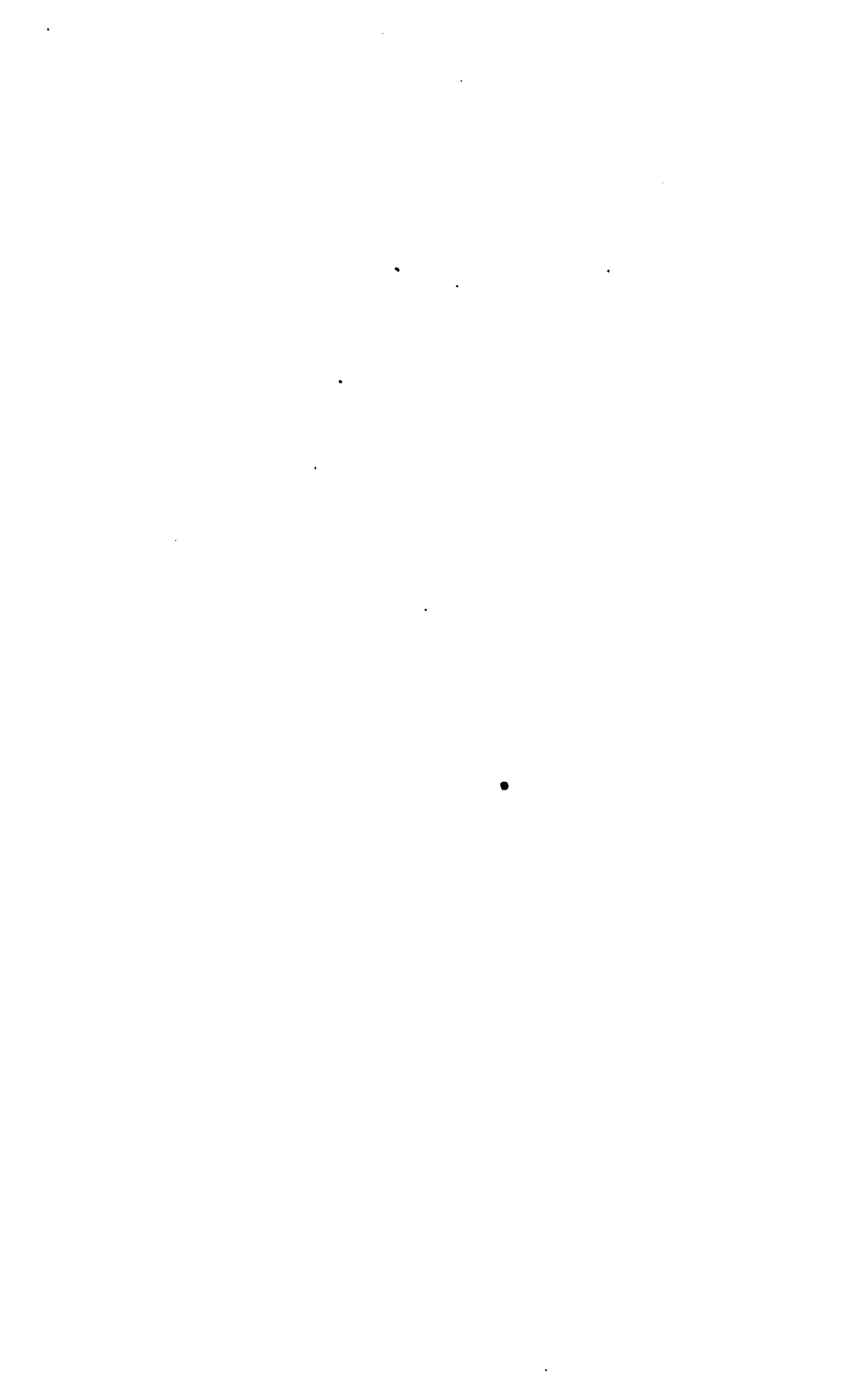
- F.F. †SPANTON, W. DUNNETT, F.R.C.S.Eng., J.P., *Surgeon to the North Staffordshire Infirmary*, Chatterley House, Hanley, Staffordshire.
C. 1887-9 & 1901-2. V.-P. 1890-92.
- 1898 SPEARING, ANDREW, L.F.P.S.G., Springfield House, Patricroft, Lancs.
- 1898 SPROTT, WM. J., M.D., M.Ch., R.U.I., Netherleigh, Halton Bank, Pendleton, Manchester.
- 1898 STEKOULIS, CONSTANTIN, M.D., Péra, Rue Souterazi 7, Constantinople.
- 1893 †STEPHEN, GEORGE CALDWELL, M.D., C.M.McGill, 54, Evelyn Gardens, South Kensington, s.w.
- 1885 STEVENSON, EDMUND SINCLAIR, M.D., F.R.C.S.E., Strathallan House, Rondebosch, Cape Colony. Hon. Loc. Sec.
- 1897 *STEVENSON, JAMES, M.D.Glasg.
- 1899 STEVENSON, WILLIAM JOHN, M.D., C.M., M.C.P. & S. Toronto, 391, Dundas Street, London, Canada.
- 1892 STEWART-McKAY, W. J., M.B., M.Ch., B.Sc., Australian Club, Macquarie Street, Sydney, New South Wales.
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- 1893 STONEY, RALPH, L.R.C.S.I., L.R.C.P.I., *Medical Officer British East African Protectorate*, Mombasa, East Africa.
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- L. F.F. TAYLER, WILLIAM HENRY, M.D. St. And., M.R.C.S.Eng., Upper Ensing House, Chilham, Kent.
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C. 1891-3, 1900-2. V.-P. 1894-6.
- F.F. TEMPLE, THOMAS CAMERON, M.R.C.S., L.S.A., Shefford, Beds.
- 1898 THOMAS, JOHN LYNN, F.R.C.S.Eng., 21, Windsor Place, Cardiff.
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C. 1897-9.
- 1893 †THOMSON, GEORGE, M.B., C.M.Glas., 72, The Avenue, Ealing, W.
- 1899 THORNHILL, WILLIAM HENRY, M.D., M.Ch., R.U.I., *Lieut.-Col. I.M.S.*, East India United Service Club, and 85, Pimlico Road, S.W.
- 1898 TIVY, WILLIAM JAMES, F.R.C.P., F.R.C.S.Ed., 8, Lansdowne Place, Clifton.

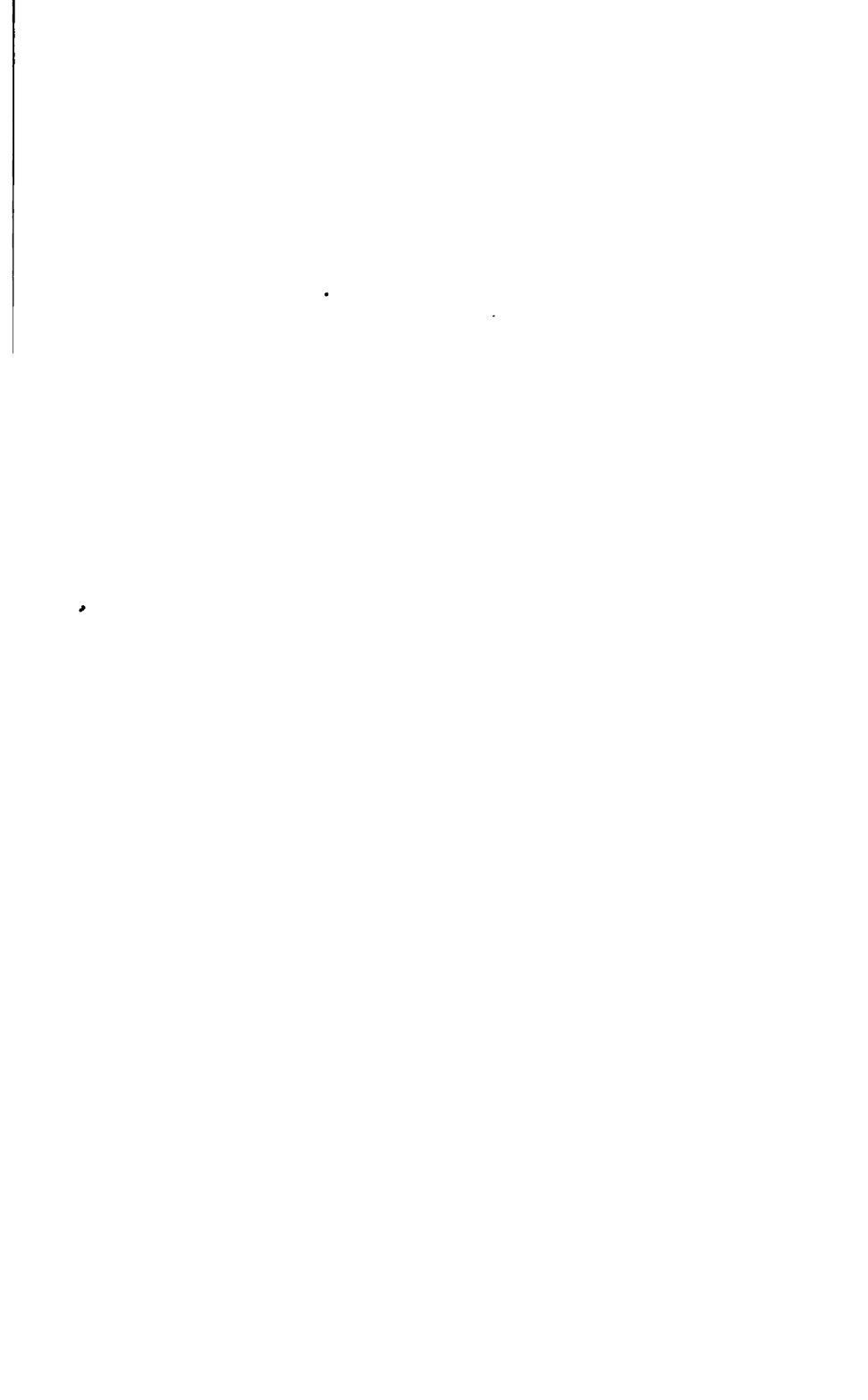
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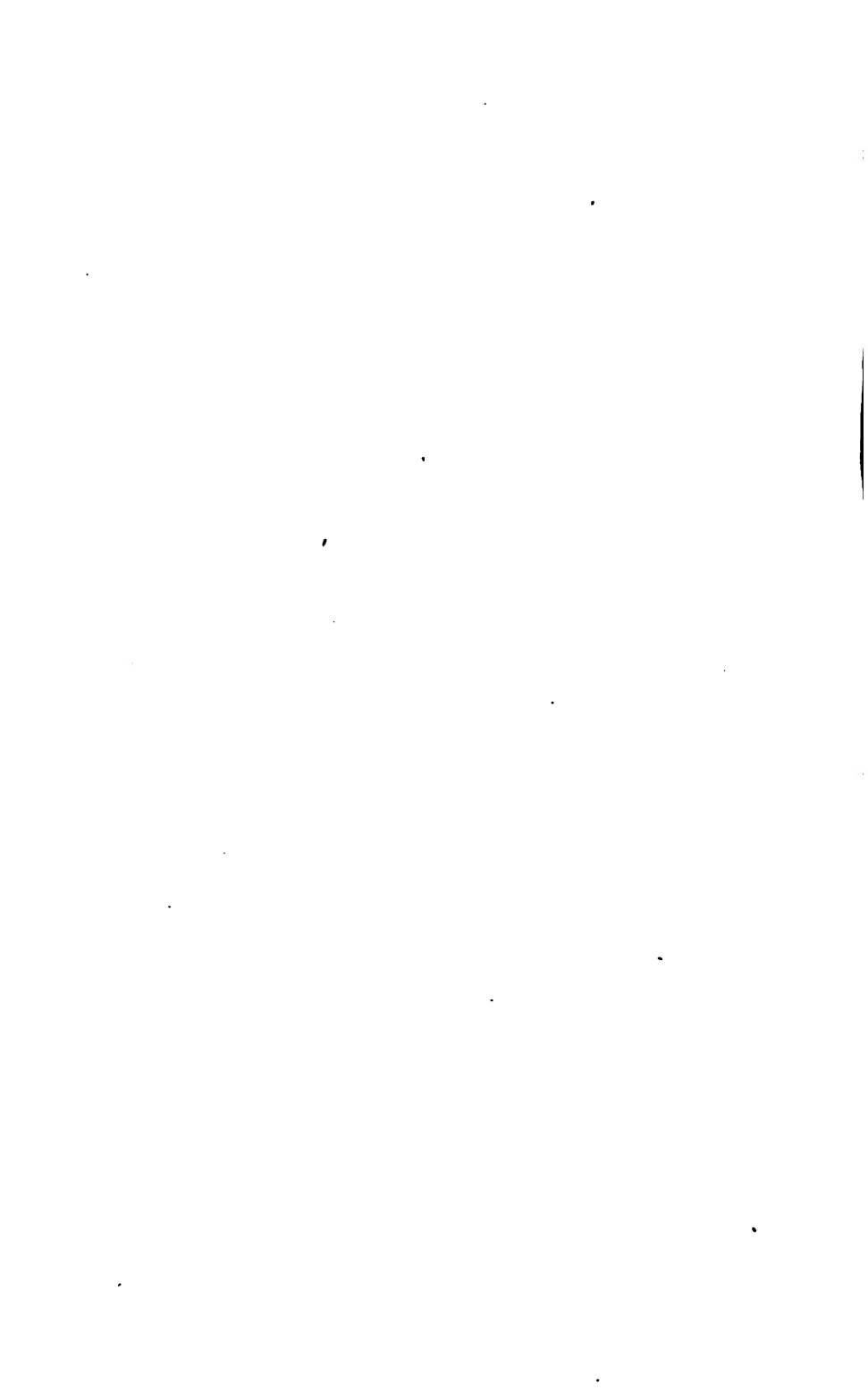
- 1895 TRAVERS, F. T., M.B., B.S.Lond., F.R.C.S.Edin., 6, Clarendon Place, Maidstone.
- 1892 †TRAVERS, W., M.D., F.R.C.S., *late Physician to the Chelsea Hospital for Women*, 2, Phillimore Gardens, w.
C. 1894-6 & 1900. V.-P. 1897-9. Treas. 1901-2.
- 1895 TREUB, HECTOR, M.D., *Professor of Obstetrics and Gynaecology University of Amsterdam*, Vondelstraat, 83, Amsterdam.
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- 1898 TROWER, ARTHUR, M.R.C.S., 12, Moreton Gardens, South Kensington, S.W.
- L. 1889 TUOHY, JOHN FRANCIS, M.D., M.Ch., *Lieut.-Colonel I.M.S.*, Hova House, 1, Hova Terrace, Brighton.
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- L. 1885 VAN DER VEER, ALBERT, M.D., 28, Eagle Street, Albany, New York, U.S.A.
- 1895 VAUGHAN-JACKSON, HERBERT FRANCIS, L.R.C.P., M.R.C.S., Potter's Bar, Middlesex.
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C. 1894-6.
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- 1895 WALTON, PAUL, M.D., *Chirurgien-adjoint des Hopitaux de Gand*, 33, Quai des Tonneliers, Ghent, Belgium.
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- 1895 *WHEATLY, A. W., M.B.Dur., M.R.C.S.
- 1897 †WHITEHEAD, HENRY EDWARD, M.R.C.S., L.R.C.P., 475, Caledonian Road, Holloway, N.
- 1898 †WIGLESWORTH, WALTER, L.R.C.P. & S.Edin.
- 1898 †WIGMORE, ARTHUR W., L.R.C.P., D.P.H.
- 1890 WILLIAMS, CYRIL JOHN, L.R.C.P., Brookside, Woodhall Spa, Lincoln-shire.
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- L. 1891 †WOODS, HUGH, M.D., B.S., M.A.O., Westbury, Hornsey Lane, Highgate.
- L. 1889 WORRALL, RALPH, M.D., 20, College Street, Sydney, N.S.W.
- L. 1885 WYLIE, WALKER GILL, M.D., 28, West Fortieth Street, New York, U.S.A. V.-P. 1894-6.
- 1898 YOUNG, H. C. TAYLOR, M.D., C.M., 209, Macquarie Street, Sydney, New South Wales.
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